REPORT RESUMES

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A STATE MASTER PLAN FOR VOCATIONAL EDUCATION.

BY- RUHIG, THEODORE F. AND OTHERS

HAWAII STATE BOARD OF EDUCATION, HONOLULU

HAWAII UNIV., HONOLULU, BOARD OF REGENTS

HAWAII STATE LEGISLATURE, HONOLULU, SENATE

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THIS PROPOSAL FOR AN ARTICULATED AND COORDINATED STATEWIDE VOCATIONAL EDUCATION PROGRAM IN HAWAII PROVIDES FOR THE DESIGNATION OF THE REGENTS OF THE UNIVERSITY AS THE BOARD OF VOCATIONAL EDUCATION, WITH A SUBORDINATE COORDINATING COUNCIL. THE MAJOR EFFORT IN VOCATIONAL EDUCATION SHOULD BE AT THE LEVEL OF THE COMMUNITY COLLEGE, WHICH SHOULD EMPHASIZE PROGRAM FLEXIBILITY IN OFFERING SHORT TERM PROGRAMS, SMALLER COURSE UNITS, SPECIAL SUMMER PROGRAMS, EVENING COURSES, ON THE JOB AND COOPERATIVE TRAINING, AND PROGRAMS OF ADVANCED PLACEMENT AND EARLY ADMISSION FOR HIGH SCHOOL STUDENTS. VOCATIONAL EDUCATION AT THE SECONDARY LEVEL SHOULD BE EXPLORATORY, DIRECTED AT CLUSTERS OF JOBS, AND AN INTEGRAL PART OF GENERAL EDUCATION. AT THE COMMUNITY COLLEGE LEVEL, GENERAL EDUCATION SHOULD BE AN INTEGRAL PART OF VOCATIONAL EDUCATION. COOPERATIVE PLANNING, ARTICULATION, AND COORDINATION SHOULD RESULT IN PREPARATION OF STUDENTS FOR PROGRESS TO SUCCESSIVE LEVELS OF COMPETENCE, ELIMINATION OF UNNECESSARY REPETITION AT ANY LEVEL, AND MAINTENANCE OF AVAILABILITY OF OPTIONS FOR CONTINUING EDUCATION. (WO)

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A STATE MASTER PLAN FOR VOCATIONAL EDUCATION

IN RESPONSE TO

Senate Concurrent Resolution No. 43

THE FOURTH LEGISLATURE OF THE
STATE OF HAWAII

THE SENATE
Concurrent Resolution

A COORDINATING COMMITTEE OF THE BOARD OF EDUCATION AND THE BOARD OF REGENTS OF THE UNIVERSITY OF HAWAII TO DEVELOP A COMPREHENSIVE STATE MASTER PLAN FOR VOCATIONAL EDUCATION IN CLOSE CONSULTATION WITH THE COMMISSION ON MANPOWER AND FULL EMPLOYMENT AND OTHER AGENCIES.

Presented APRIL 25, 1967

Senator NELSON K. DOI

LARRY N. KURIYAMA, PERCY K. MIRIKITANI, WILLIAM E. FERNANDES, JOHN J. HULTEN, DONALD D. H. CHING, WILLIAM H. HILL, D. G. ANDERSON, WALTER M. HEEN, TOSHIO ANSAI, WEBLEY EDWARDS, JAMES K. CLARK, SAKAE TAKAHASHI, VINCENT H. YANO, DUKE T. KAWASAKI, JOHN T. USHIJIMA, JOHN C. LANHAM, HEBDEN PORTEUS

MEMO:

APRIL 25, 1967: ADOPTED (SENATE)
APRIL 28, 1967: ADOPTED (HOUSE)

Seichi Hirai
Clerk of the Senate

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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A STATE MASTER PLAN
FOR VOCATIONAL EDUCATION

JC 680 098

February 1968

UNIVERSITY OF CALIF.
LOS ANGELES

FEB 23 1968

CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION

PREFACE

A State Master Plan for Vocational Education has been prepared in response to Senate Concurrent Resolution 43 adopted during the 1967 regular session of the Fourth Hawaii State Legislature. This plan is the final document of several revisions which were prepared between the summer of 1967 and January 1968.

While the operational staff did the actual work in preparing the plan, there must be noted the fourteen official meetings of the Coordinating Committee and the Advisory Committee. There were also other innumerable meetings, formal and informal of all kinds. It was these meetings which provided the impetus and the most necessary direction and guidance to what was being done. In fact, it is most likely, that far beyond the document produced, the most important result was the establishment of dialogue and the resulting consensus among the many leading elements in the community represented by the State Board of Education, the University Board of Regents and the Commission on Manpower and Full Employment. This augurs well for the future.

It was not to be expected that total community consensus could be achieved in all areas touched by the proposed Master Plan. Besides the Master Plan volume, there was also prepared a companion volume of community responses to various aspects of the many rough drafts.

The record now speaks for itself. At this point the legislative process takes over.

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Samson Shigetomi
Irwin Tanaka

In response to SCR 43, the following Table of Organization was adopted:

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HAWAII VOCATIONAL EDUCATION MASTER PLAN

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THE BACKGROUND AND PRINCIPLES

THE CURRENT SITUATION

Introductory Background

The 1967 session of the 4th Hawaii State Legislature resolved that "it is of great urgency to the citizens of this State, adults as well as youths, that there be developed a comprehensive state master plan for vocational education . . ."

This urgency was previously recognized by the Board of Education in its directive to the Superintendent to "delineate and articulate vocational training programs with the University of Hawaii and the Community College administration."[1] Under the mandate of the Legislature, a Coordinating Committee of the Board of Education, the Board of Regents of the University of Hawaii, and the State Commission on Manpower and Full Employment, has developed such a plan. We submit it believing that, indeed, adjusting vocational education to the challenges of this modern era is of great urgency.

The economic revolution which is now destroying the old production-oriented, semi-skilled and unskilled jobs must also destroy our old concepts of vocational education.

Technologically-induced shifts in job opportunities have imposed new career training demands. The rapid opening of new fields of knowledge has changed the very nature of work itself; the priorities shifting from muscle power to mental powers.

We witness a tremendous shift from production-oriented jobs to service jobs; we must now have a corresponding emphasis on the development of the required communicative and social skills.

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[1] Board of Education Statement on "Vocational Education," July 20, 1966.

"If the average young man will hold a dozen jobs in a 46-year work life, many of them not now in existence, the school cannot train for specific careers; it should instead concentrate on its educational tasks. The best vocational education now, as before, is a good general education accenting basic literacy, disciplined work habits, and adaptability--an optimal base for life-time learning."[2]

State Occupational Overview

As on the national scene, drastic change is the very nature of Hawaii industry.

Pre-1941 Hawaii depended almost exclusively on sugar and pineapple. But 26 years of international tension, with three shooting wars, and the revolutions of the visitor industry--new wealth, new leisure, and the jet airplane--changed forever the economics of our State.

The defense industry doubled during the 10 years following 1956 to become Hawaii's largest. The travel industry, starting from a much smaller base, swelled during the same period by a startling 500 per cent--to second largest. By 1977, it is likely the travel industry will be our largest.

Government has emerged as Hawaii's largest employer, followed by trades, services, manufacturing, construction and transportation, communications and utilities.

The State's economy continues to expand explosively, with new jobs constantly created. If present trends continue, the labor force will reach 305,500 in 1970 and 348,800 in 1975. Last year alone, the labor force grew by 4.1% to 295,000, an increase of 67,000 since 1960. During the seven-year period, the most significant job growth took place in state government (46.2%); followed by finance, insurance and real estate (45.5%); services (37.1%) and wholesale-retail trades (24 %).[3]

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[2] Harold L. Wilensky, "Careers, Counseling and Curriculum," The Journal of Human Resources, Winter, 1967, Vol. II, No. 1.

Despite such a massive reordering in our economic facts of life, in many schools a significant portion of our occupational training remains in agriculture--where, in many instances "it is evident that emphasis on the production of commodities far overshadows the instructional emphasis."[4]

Along with redirecting vocational education to meet modern Hawaii's needs, we have the responsibility to equip our young with skills which allow for new standards of geographic mobility throughout the entire nation's job market.

Vocational Education and the Deprived

There must also be a new look at the way students are treated within the educational system. A recent State Department of Education report on vocational education practices in the public school by Francis M. Hatanaka stated that:

> . . . (generally speaking, students are categorized into five categories: High, high average, average, low average, and low, based on standardized test results). The required course accommodates students of varying abilities while the elective courses tend to cater primarily to the low average and low ability student . . . Though there is no real evidence of 'tracking', it is evident that some administrative pressures are exerted upon students of low ability to elect courses in the agriculture area."[5]

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[3] The State of Hawaii Comprehensive Manpower Plan, Fiscal Year 1968.

[4] Francis Hatanaka, Report on Vocational and Practical Arts, Department of Education, July 1967, p. 12.

[5] *Ibid.*, p. 12.

The type of thinking which "tracks" the under-achiever into vocational education ignores current research which indicates that the very quality of the educational experience does much to determine what once was seen statically as "basic intelligence."

It must be recognized that high school vocational education traditionally has been looked upon as last chance education for some students, without sufficient recognition of the fact that the modern world allows for no terminal education. Most young people should be provided an education to motivate them to at least the community college level where they can acquire enough basic skills to meet the demands of a modern vocation.

The problem seems to be what to do for those who are difficult to motivate or those who are adjudged to be intellectually incapable of college. Is a terminal high school vocational education their only route?

The tendency at the secondary school level has been to channel those who "can" into academic education and those who "can't" into vocational education. Vocational education, then, becomes neither vocational, as it does not satisfactorily equip one for an immediate job-entry position, nor very educational.

In fact, a case might be made to show that we are fortunate to have a relatively small percentage of our secondary students enrolled in vocational education (18.8%, compared to a national average of 25.4%). This might account, in part, for the strong holding power of Hawaii's schools, which were found to have one of the lowest dropout rates in the nation in a 1967 study.[6]

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[6] The 1967 Annual Secondary School Status Survey, Hawaii State Department of Education, p. 5.

When a child from a deprived background is treated as academically uneducable because he does not readily respond to a college-bound curriculum, his deprivation is compounded by shuttling him into vocational education. For the deprived, vocational education is an inadequate substitute for an enriched remedial academic curriculum. The role of those who "can't" is confirmed like a self-fulfilling prophecy--most dramatically by the dropouts, both those who literally drop out of school and the far more numerous psychological dropouts.

Recent thinking points up the tragic waste of ascribing a "can't" label to a portion of our students.

One of America's greatest educators, Ralph Tyler, president of the National Academy of Education and recent past director of the Center for Advanced Study in Behavioral Sciences at Stanford University, had this to say in a recent interview:

> We need faith in the ability of the individual student to learn. We have been badly misled by our mis-interpretation of I.Q. scores. An I.Q. score measures what a person has presently learned about how to learn, but it says nothing about the limits of his ability to learn.

Earlier in the interview, he had said:

> We can reach far more students at the college level than we have reached in the past. Geneticists continue to report data that suggests that we can raise the ability level of most students to accepted college levels. We have not begun to approach the potentials of student abilities.[7]

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[7] Donald W. Robinson, "A Talk with Ralph Tyler," Phi Delta Kappan, Vol. XLIX, No. 2, October, 1967, p. 75.

And Charles E. Silberman in a recent article in "Fortune" magazine said this:

> The studies of the learning process conducted over the past twenty years have made it abundantly clear that those who are not now learning properly--say, the bottom 30 to 50 per cent of the public-school population--can in fact learn, and can learn a great deal, if they are properly taught from the beginning . . . This proposition grows out of the repudiation of the old concept of fixed or 'native intelligence and its replacement by a new concept of intelligence as something that is itself learned.'[8]

In another recent study, an Englishman, Dr. Cyril Burt, has contended that Copernicus, Drake, Bunyan, Poussin, and Faraday, all probably had I.Q.'s below 110 and would have been regarded as poor students in the present-day school.[9] The National Education Association has estimated that using the I.Q. measurement causes us to shunt attention away from 70 per cent of all the gifted and creative children.

As Hatanaka's previously cited report concludes,

> . . . it is important that an all-out effort be made to determine how to teach those who in the past may have been 'tracked' into the vocational and practical arts education classes simply because it was not known how to teach them more effectively.[10]

Apparently caused in part by the failures of education, a core of unemployment has persisted in the State. During the past seven years it has varied between 3% and 4.8% and has averaged around 10,000 people. The disturbing fact is that unemployment and job vacancies have existed side by side.

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[8] "Technology is Knocking at the Schoolhouse Door," Fortune August, 1966, p. 124.

[9] "A School Approach to Technology," London, Her Majesty's Stationery Office, 1967, p. 24.

[10] Hatanaka, op. cit., p. 27.

A survey of the 11,100 students graduating from Hawaii high schools in 1965 found that a year after graduation 65.2% had gone on for further education, 8.5% had entered military service, 7.3% could not be located, and .03% were deceased. Some 13.3% had taken full-time jobs. The remaining 5.7%--639 youngsters--were not in school and not employed.[11]

It can be assumed that many of those 5.7% were unemployed and not provided with sufficient motivation to acquire the level of education and training needed to qualify for the available jobs. In spite of a tight labor market and a record demand for manpower, the unemployed portion of the State's labor force experienced an absolute increase of 2,050 in the years 1960 to 1966. While the exact nature of this unemployment is not clear, the 1967 findings of Won and Yamamura are significant:

> Job-seeking activity appears to center in those with limited education. More than 70% of the job-seekers had a high school education or less. Within this group about 12% had a grammar school education or less, about 22% were high school dropouts, and 38% were high school graduates.[12]

Given the apparent inadequacies in education and the accompanying human tragedy and waste, and given the extremely tight local labor market and the desperate long-term need for more educated, more highly trained manpower, there would seem to be a good deal of prophetic wisdom in the expansion of the Community College occupational training programs.

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[11] Office of Research, Department of Education, as reported in the Hatanaka Report.

[12] George Won and Douglas Yamamura, The Job Seeker in Hawaii, May, 1967. A study sponsored by the Commission on Manpower and Full Employment.

The Basic Approach

The basic approach to the State's occupational training effort should be a delineation of how to move from the here and now to a self-correcting future.

It is the job of Hawaii's schools to prepare all students for life in a highly competitive society. As long as the present realities persist, special effort must be made to provide all students with imaginative new learning opportunities to participate in an open society.

In preparing a Master Plan, a dual role of education must be recognized: not only is it the traditional means of individual self-fulfillment, it is also a major means of the State in promoting social and economic growth.

An educated population, then, is our most important resource.

Because of the anticipated intensity of future State occupational demands and the lead time needed to meet these demands, the time for decisive action is now.

AN OVER-ALL OBJECTIVE AND DEFINITION

THE ROAD AHEAD

OBJECTIVES AND CHARACTERISTICS OF A STATE VOCATIONAL EDUCATION MASTER PLAN

The goal of a statewide educational system should be the actualization of the human potential of all its students.

The objective of a master plan for vocational education should be optimal training for the state's human resources for the labor market while simultaneously maximizing the human potential of the individuals involved. Vocational education must be treated as an integral part of general education.

For aid in attaining the goal of a state master plan for vocational education the following definition will be employed.

To quote:

> For purposes of this study, vocational education is intended to mean any secondary school, community college, technical school, or continuing education program that deals specifically in an organized and systematic manner with the acquisition of skills, understandings, attitudes, and abilities that are necessary for entry into and successful progress within a specific occupation or job family.[13]

In developing a state master plan it will be useful to postulate an idealized model. The model should have the following characteristics:

1. Comprehensive. The plan must take into account the over-all education and training needs of the community and all the related institutions, agencies, and activities. The major involved institutions are the State Department of Education, the Community College System of the University of Hawaii, and the State Department of Labor and Industrial Relations.

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[13] Derived from Samuel M. Burt, Industry & Vocational-Technical Education. New York: McGraw Hill Book Co., 1967, p. IX.

2. Articulated for Efficiency and Flexibility of Options. Curriculums in inter-dependent activities should be designed so that work at lower levels adequately prepares students for higher levels, so that there is no unnecessary repetition at any level, and so that options for continuing education or occupation are kept open.

   Vocational education should employ, where feasible, the cluster concept curriculum aimed at the development of skills and understandings related to a number of allied occupations as well as the specific job entry requirements with the purpose of providing students with mobility for jobs within an industry or occupation, with the ability to adapt to technological change, and with more options in occupational choice.

3. Coordinated. Lines of communication, authority and accountability must be clearly established among all participating agencies, government and private. Responsibility must be established in a single state agency.
   a. To formulate, develop, and promote an annual state plan and overall policy for vocational education.
   b. To give administrative direction to and to supervise the execution of such a plan and policy in:
      1) the public school system
      2) the university-community college system
      3) all other appropriate types of schools, educational systems and institutional arrangements either public or private
   c. To be the official agency of the state so designated by statute to receive federal funds for vocational and/or technical education, training, and retraining and to carry out the provisions of the federal statutes relating thereto.

   d. To engage in periodic evaluation of all such programs and policies.
   e. To carry on necessary research and development for future policies and programs.

4. Responsive to Change. The program must be shaped by accurate information about present and future education and skill requirements of a rapidly changing economy. It must be responsive to change and even anticipate change.
5. Self Evaluative. All programs should provide for periodic evaluation of curriculum as measured against a changing economy, developments in education, and student achievement. Regular measurement must be made of shortcomings such as dropout rates, absenteeism, obsolescence in teaching methods and in course content.
6. General Education for All. The plan should recognize that the proper goal of schools in grades K to 12 is the maximum intellectual development of all children and that a sound background in language, mathematics, social studies, and science is the best basis for successful vocational education and employment.
   a. Curriculum should be designed to achieve specific intellectual abilities for all pupils.
   b. Various methods may be used to achieve these abilities. The method must be judged by objective measures of the extent to which these abilities are achieved.
   c. Instruction must be based at every step on a careful evaluation of individual achievement and need and upon the postulate that, properly taught, almost all children can learn to acceptable standards. Remediation must be promptly applied.

It must be recognized that a certain percentage of students entering the system at every level come from situations which have not prepared them for academic work and that curriculum design must therefore provide the necessary compensation and remediation to overcome their deficiencies.

Counseling services must be provided to assist individuals who have emotional, motivational, and other problems.

7. Orientation to Work. Students should have an exposure to and an awareness of the world of work and career options as part of the learning process at all levels. This should be an integral part of the general academic program, reinforcing the all-around development of knowledge, attitudes, and values needed by the individual and society.
    a. Counseling services must adequately inform students about job opportunities, occupational fields, and related academic work, facilities for post-high school education, and various programs of financial support.
    b. Counseling and instruction should be related as closely as possible to occupational realities. Practitioners of various occupations should be involved in instruction, guidance, and curriculum development.
    c. Vocational-technical education and practical arts education at the K-12 should not be seen as separate from general education. The purpose and goal should be to graduate a student who has maximum flexibility in post-high school activities. He might enter a university or a community college and pursue an academic career. He might enter a community college or a technical school and

receive post-high school occupational training. He should have a level of general education which is the best preparation for any entry-level, unskilled position, or for further occupational training.

d. We believe that the most effective training in job skills is done on the job or in close connection with employment and that it is good public policy to encourage training, apprenticeship, and work-related programs of instruction for upgrading within industry.

8. A Systems Approach. The plan must see the efforts of all concerned agencies as interrelated parts of a single system of vocational education. It must coordinate the various parts. It must provide for continuous development and up-dating of all relevant information--such as current and projected manpower needs, newly required skills, job vacancies, characteristics of trainees, available training slots, types of training programs, available training facilities, together with evaluation of the training effort--and ensure that appropriate changes in program ensue.

A NEW BOARD OF VOCATIONAL EDUCATION

THE VEHICLE FOR CHANGE

Proposed Organizational Structure

A basic question which should be dealt with at the outset is the structure of the Board of Vocational Education. An appropriate structuring of this Board is the key to wise policy-making in the future. In the study of alternatives, five major possibilities were considered:

1. Continued designation of the Board of Education as the Board of Vocational Education.
2. Creation of a new State Board modeled on this State Master Plan's Coordinating Committee: that is, a tripartite body consisting of three members of the Board of Education, three members of the Board of Regents, three members of the Commission on Manpower and Full Employment.
3. Creation of a totally new State Board, one which does not involve members of existing boards and commissions.
4. Creation of a State Board from equal numbers of the Board of Education and the Board of Regents with the Manpower Commission in the officially advisory role.
5. Designation of the Board of Regents as the Board of Vocational Education with an official coordinating council made up of three members from the Board of Regents, three members of the Board of Education and three members of the Manpower Commission.

The first alternative--continuing the present arrangement--was felt to be unsatisfactory because of changes in policy and in the allocation of federal funds.

With the continuing shift of emphasis on vocational education to the Community College System, which is under the Board of Regents, the Board of Education finds itself channeling significant sums of vocational education monies into an institution which is not within its jurisdiction. If certain recommendations that follow in this report are adopted, the trend will increase.

The second alternative--tripartite representation of the Board of Regents, Board of Education, and the Commission on Manpower and Full Employment--offers several advantages.

Because the Commission's community-wide composition would meet Federal requirements for receiving vocational education grants if Commission members represented management and labor, no advisory committee would have to be attached to this structure. (See Appendix B, Composition of State Board or State Advisory Council.)

A tripartite body's wide representation would lend itself to a high degree of community acceptance and visibility. Direct links into the Board of Regents and Board of Education would facilitate implementation of Board policy by the two operating agencies--the D.O.E. and the Community Colleges.

However, it was felt by some that such a structure might be viewed as proliferation of boards and make for increased bureaucracy. Secondly, it was felt that this might force the Commission beyond the bounds of its mandate, since the Legislature intended it to be an advisory and coordinating body.

The third alternative, the creation of a new "outside" board, would seem direct, clear, and simple.

With the right composition this board could receive Federal Vocational Education Funds, would need no advisory council, and could direct vocational education through the Department of Education and the Community College

System. Such a board would be highly visible and could devote itself single-mindedly to vocational education. Difficulty would arise, however, in program implementation and articulation. Such an outside board, with no direct administrative linkages and no previous experience, would have trouble getting its policies implemented. This board would be apt to take a narrow view of its responsibilities and to develop an adversary relationship to the school board and the Regents, fighting for more funds and more time for its own specialties even though it might be harmful to the total educational process. Conflict between Department of Education policies and Community College System policies would almost surely arise. The unique advantage of having a single state school system would be lessened by such conflict.

The fourth alternative, a Board composed of equal numbers of the Board of Regents and the Board of Education with the Commission playing the advisory role, is perhaps more feasible.

Visibility, articulation, and an understanding of the challenges would all be built into such a structure. Requirements for Federal grants would be met. The educational, fiscal, and operational responsibilities would remain solely with the boards which already have the authority and staff to cope with such problems. The advisory and evaluative role would be in an existing state agency which already is mandated to evaluate state occupational training at all levels.

The fifth alternative, designating the Board of Regents to act as the Vocational Education Board, has a major and perhaps overriding attraction: the community colleges, which are under the Regents, are designed to handle the bulk of Hawaii's vocational education and it might therefore seem appropriate for the Regents singly to direct this major effort of the University system.

However, some might think vocational education might not have as high public visibility as is desired. Articulation with the pre-vocational offerings of the high schools might not as easily be provided. The backlog of experience that the Board of Education has accumulated would not be directly available.

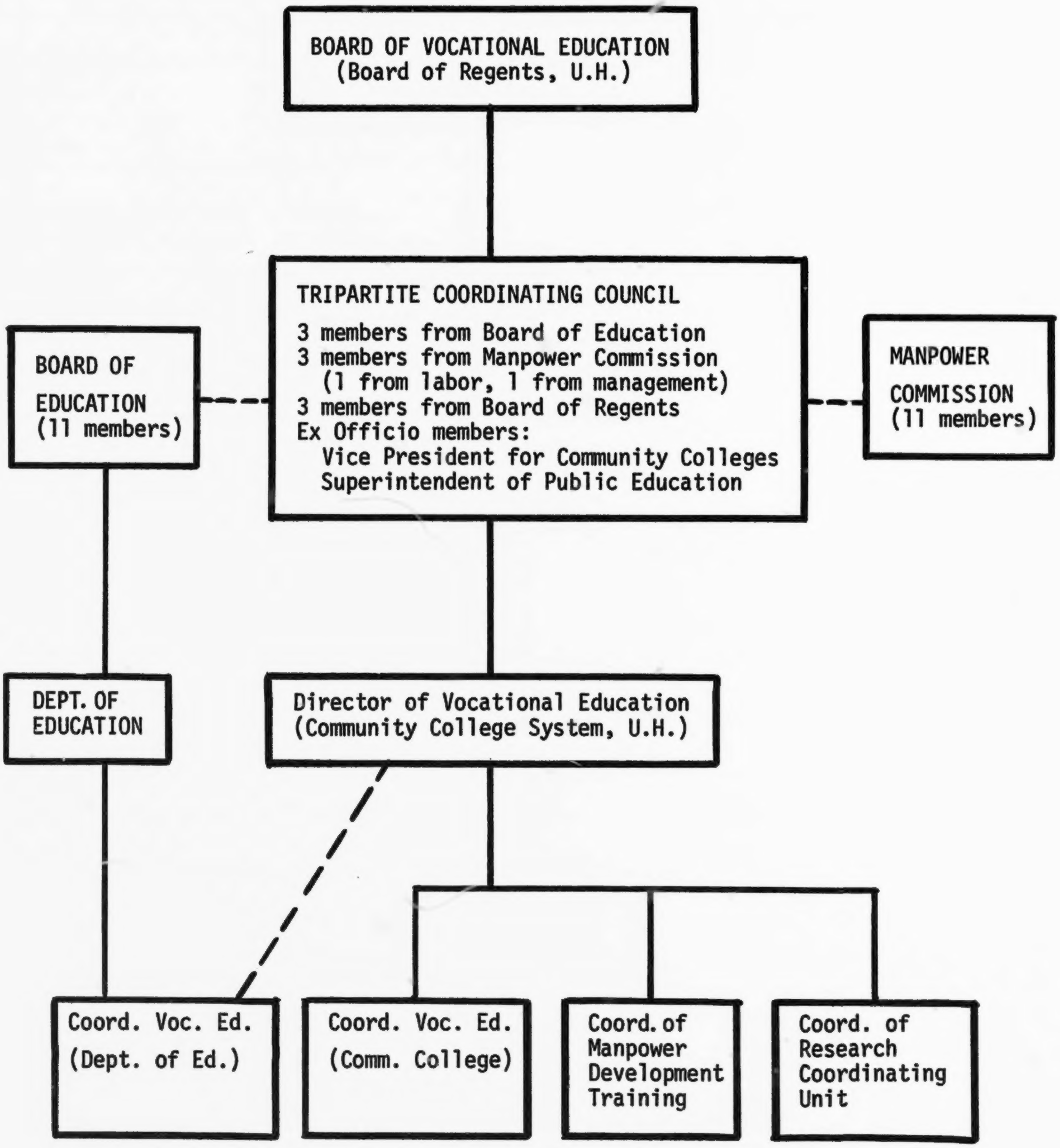
A vocational education Board constituted out of the Board of Regents may not be considered a "representative board" as prescribed in the Federal statutes--and so, again, a separate advisory council may be needed.

All these problems could be answered by establishing a coordinating council for vocational education consisting of members selected from the Board of Regents, Board of Education, and the Manpower Commission. This should resolve most of the difficulties.

Recommendation

Because the bulk of vocational programs will be in the Community Colleges, and because it is felt that a coordinating council can deal adequately with problems of articulation, the recommended alternative is the latter--designation of the Board of Regents as the Board of Vocational Education with an official coordinating advisory council made up of three members from the Board of Regents, the Board of Education, and the State Commission on Manpower and Full Employment. (See Diagram of Proposed Organizational Structure.)

DIAGRAM OF PROPOSED ORGANIZATIONAL STRUCTURE


BOARD OF VOCATIONAL EDUCATION
(Board of Regents, U.H.)
TRIPARTITE COORDINATING COUNCIL
3 members from Board of Education
3 members from Manpower Commission
(1 from labor, 1 from management)
3 members from Board of Regents
Ex Officio members:
Vice President for Community Colleges
Superintendent of Public Education
BOARD OF EDUCATION (11 members)
MANPOWER COMMISSION (11 members)
DEPT. OF EDUCATION
Director of Vocational Education
(Community College System, U.H.)
Coord. Voc. Ed. (Dept. of Ed.)
Coord. Voc. Ed. (Comm. College)
Coord. of Manpower Development Training
Coord. of Research Coordinating Unit

ARTICULATION

THE CONTINUING CHALLENGE

Articulation

Articulation cannot be mandated and thereby established; it must be continuously developed and maintained. The development of this Master Plan by coordinated effort should be considered an initial phase of articulation. This process of joint planning--as performed by the planning body and its operational staff--should be continued. The unique advantage of Hawaii's statewide education system should lend itself well to establishing a program which is a model of creative articulation.

Curriculum planning is of special importance, but articulation should not be limited to this area. Administrative practices, guidance and counseling, and prevailing philosophies must be of intense mutual concern to the high schools and the community colleges. Other training institutions, both public and private, also need to be recognized.

Recommendation

Planning should be articulated at the highest level by making the Vice President for Community Colleges and the Superintendent of Education ex officio members of the proposed Coordinating Council of Vocational Education. Further, the Director of Vocational Education under the aegis of the Coordinating Council, should hold periodic meetings with the appropriate staff members from the Community College System, the Department of Education, the Commission on Manpower and Full Employment, and the Department of Labor and Industrial Relations. The Coordinating Council and the Director of Vocational Education should thus be enabled to develop and promote coordination and linkage in the various occupational programs.

PRINCIPLES AND GUIDELINES

THE GROUNDWORK FOR DECISION-MAKING

Guiding Principles

In developing this Plan, the Coordinating Committee formulated six guiding principles for analyzing the issues of vocational education.

These principles, which in turn are sharpened into guidelines and specific recommendations later in this document, are reported to provide insight into the deliberations of the Committee. They are as follows:

1. Education should be conceived of as an open-ended sequence of goals, and as a continuous process.
2. Education in school can at best provide only part of the total *vocational competence of an individual*, but it should shorten and make effective pre-job and on-the-job training by the employer.
3. Vocational-technical education should be considered as an integral part of the entire process of an individual's education and should, therefore, be concerned with the development of all of his capacities--intellectual, manual, social and creative.
4. Preparation of the individual for a useful and satisfying occupation for employment should be one of the objectives of education.
5. Certain facts, concepts, skills, attitudes, and processes of vocational-technical education are relevant to the entire spectrum of education and should be experienced by pupils at all educational levels.
6. The respective responsibilities of the educational system and industry in developing vocational competence of individuals must be more clearly defined.

For a well-articulated program of vocational education, the Department of Education, the Community College System and all other continuing education programs should operate on guidelines which are mutually understood.

Recommendations

Guidelines relevant to these vocational education programs should be as follows:

1. The main responsibility of the D.O.E. in the K-12 programs should be provision of basic and general education. The D.O.E. programs should provide for exploratory and pre-vocational experiences.

   The aim should be mastery of basic academic and social skills which pay off over a person's entire worklife. Emphasis should be on language and computation skills, social studies, science, art, music, literature, physical and health education and occupational information.

2. Vocational education at a secondary school level should be seen as an integral part of total education. At the Community College level, general education should be an integral component of vocational education.

   The secondary school's aim should be developing skills and knowledge which are common to many occupations, not the preparation of the individual for a specific occupation. The Colleges should have the academic resources to continue developing social and communicative skills while the student is preparing for an occupation.

3. Course content involving the teaching of manual skills at the secondary and post-secondary levels should emphasize scientific and mathematical principles, critical thinking, and effective communication.

   If students are to gain enough background to readjust to the impact of technological change on job demands throughout a lifetime, the laboratory must go beyond teaching students to produce finished objects.

4. Vocational education programs should be organized for maximum articulation from the secondary level to the community colleges and from the community colleges to the four-year institutions.

   For example, if a particular cluster approach (See page 30) is attempted at the secondary level, the cluster components should be available at the community college and at the private vocational school level.

5. The community college should provide sufficient training for initial job entry, retraining, and upgrading the skills and knowledge of workers in the field.

   For example, while the community college could also utilize the cluster concept approach, in every instance that it does, it should branch out from the cluster to individual job-entry training.

6. Occupational training should be correlated with the requirements of employment.

   Both state and national manpower studies and advisory committees should be used for program development. The time lag between research findings and the readjustment of programs must be reduced.

7. The image and prestige of occupational education should be improved through counseling, research and other techniques.

   Status and prestige cannot be achieved automatically. It is derived from recognizing that all socially useful work is honorable, that occupational education is legitimate and necessary, and that excellent vocational education programs must be developed and maintained.

THE DEPARTMENT OF EDUCATION

AND

THE COMMUNITY COLLEGE SYSTEM

--

NEW DIRECTIONS

Criteria for Evaluating High School Programs

Vocational education programs in the high schools should be evaluated against the following criteria:

1. Program and course objectives provide opportunities for the development of vocational competence.
2. Preparation for post-secondary vocational education is an objective.
3. Course content emphasizes learning concepts that can be applied when teaching manipulative skills. Shops, agriculture land laboratories, and other traditional vocational facilities are seen as laboratories to reinforce and motivate basic learnings.
4. Programs are designed to enable individuals enrolled to select many alternatives. Prerequisites should not lead towards a high degree of specialization that limits an individual's options upon completion.
5. The required secondary program for all students provides common vocational learnings which have universal applications. Focus is on exploration and experiences with concepts that are common in their environment.
6. Vocational-technical education courses in the secondary school will not duplicate community college or technical school courses. Secondary programs are considered "pre-vocational" which must contain the feature of having a broad base of fundamental skills which will allow for flexibility and change.
7. The secondary program of vocational-technical education is developed with the cooperation and assistance of groups representing labor, management, and business; and is developed to provide current and

accurate occupational information for the purposes of vocational guidance and curriculum development.

On the basis of these criteria, vocational education courses at the secondary level should be:

1. retained
2. restructured
3. eliminated

If gaps in courses are found during the evaluation process, new courses should be developed.

The Cluster Concept for the Secondary School Level

As indicated in the guidelines, a more broadly-gauged program offering at the secondary school level is desired so that students will be better prepared for adapting to the technological changes which will affect their work life. A current theory of "half life of ten years" asserts that half of today's knowledge will be obsolete in a decade. The implied obsolescence of current job skills is obvious.

The ephemeral character of the career goals of high school students is also well established. Project Talent, a study by the University of Pittsburgh, found that about three out of four boys change their career goals within one year after graduating from high school.[14]

At the secondary school level we must drop the notion of training students for any particular job. It is neither desirable, practical, nor--given the problems of keeping pace with the rapid change of job demands--possible.

An approach known as the Cluster Concept offers an avenue for curriculum reform.

Because the term is subject to varying interpretations, it should be noted that this Plan's definition is that developed by the University of Maryland, which dealt with the concept as an approach to vocational education at the high school level.

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[14] John C. Flanagan and William Cooley, Project Talent One-Year Follow-up Studies (University of Pittsburgh, School of Education, Cooperative Research Project Number 2333, 1966).

The world "cluster" is used because the concept is directed toward preparing students for a spectrum of allied occupations--or job clusters. This affords a large measure of occupational exploration and mobility within a given occupational field.

Programs designed on the cluster concept do not purport to turn out workers skilled in a specific occupation from the high school level. Rather, the concept is based on the notion of growth on the job and/or further formalized training.

We apparently need not be troubled about those who want to go directly into the job market after high school if they have been provided a solid educational background. There are many entry-level jobs in business of all sorts and sizes for which a high school education is the most practical preparation. Equipped with generally useful knowledge and skills, the new hire in this job is quickly oriented to his responsibilities by his supervisor and his fellow workers. This is an efficient, specialized learning process which it would be impractical and uneconomic to attempt to reproduce in a classroom.

Many firms teach new hires by informal on-the-job guidance and criticism. Others have formal training procedures. Investigators who studied 23 of Hawaii's largest businesses and industries found that each had training programs for the purpose of preparing individuals to meet specific job requirements.[15]

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[15] John W. Nothom and David R. Lynn, Preliminary Report: Survey of Training within Business and Industry.

Essentially, the cluster approach differs from conventional programs in scope and depth. The traditional program is designed to prepare an individual for a specific job, as does the present vocational program of the D.O.E.

The cluster concept program is not designed to be a total replacement for present programs. Emphasis in intellectual development which reinforces academic learnings while developing manual skills makes this an attractive approach.

Recommendations for D.O.E.

The D.O.E. should proceed to develop its vocational education programs around the cluster concept.

In implementing the cluster concept, the D.O.E. should take the following steps:

1. Identify occupational clusters from data compiled by the State Department of Labor and Industrial Relations.

   A new data source which will be particularly relevant is the Labor Department's newly-instituted periodic Manpower Skills Survey, which defines past, current, and future manpower supply-and-demand patterns in Hawaii. This Survey should be developed and used as a basis for curriculum planning on a continuing basis.

2. Select only those clusters which can be taught to secondary students in a laboratory environment with tools and equipment used in the occupations. Existing facilities and equipment are assumed to be sufficient in most schools to make cluster programming operational.

3. Provide through the cluster approach a competency in work skills satisfying the minimal job entry requirements for some cluster-related, simple, unskilled positions for those students electing to go to work immediately after graduation without further training. For the more skilled positions within the cluster, further post-secondary high school or on-the-job training would be indicated.
4. Design a teaching sequence of basic skills and concepts which apply universally to a job cluster.
5. Coordinate the program planning and development among the separate Divisions of Agriculture, Business Education, Home Economics, and Industrial Arts. (See attached Appendix C for a sample cluster.)

Recommendations for Community Colleges

At the Community College level, the cluster approach should be applied in two specific ways:

1. Entry courses in the colleges which aim at a specific occupation should be available as a follow-through on the generalized approach of the high schools and course content should narrow toward a job entry specialization as a student progresses toward graduation.
2. Training for skills which are not dealt with by the D.O.E. program should be programmed on a cluster basis; and then continued to specific job-entry courses.

Advisory Committees

Various advisory committees which are necessary to the individual vocational education programs tend to be weighted in representation toward personnel directors, managers, and proprietors.

First-line supervisors, foremen, and graduates of programs who have worked in industry for a few years are also considered extremely valuable members of such committees.

Recommendation

Advisory committees at all levels of vocational education programs should be reviewed by administrators with an eye toward restructuring for a more balanced committee membership.

Evaluation and Research

Such evaluation as is recommended by this Plan should open the door to a continuous evaluation of vocational information and should be tied intimately with fresh research findings.

The Hatanaka report states in its summary and recommendations that the Department of Education

> . . . should be concerned with innovation and experimentation in the practical arts area to effect the kinds of curriculum change needed for the times. In this light, the redeployment in current Federal funding and other resources available to the vocational and practical arts area should be investigated in order to develop programs emphasizing more innovative approaches and exemplary practices.[16]

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[16] Hatanaka, *op. cit.*, pp. 40-41.

The study goes on to indicate that "one problem area identified in the vocational and practical arts area was the lag existing between what is taught in our schools and what actually exists in the world of work." If the new Community College System is not to have similar problems, it must build into itself a self-correcting mechanism for up-dating change.

All this points up the great need of an organized, systematic approach to occupational research and evaluation. Under the provisions of Federal law there are funds available for research, training programs, and demonstration models. However, such funds have not been used for these purposes locally.

Recommendations

Because the center of gravity for occupational training will be in the Community College System, future research efforts should be located here. This research effort should be carried on by agencies such as the Research Coordinating Unit already existing at the Community College System. The mission of the RCU is marshalling and developing the research resources and research personnel in the state for the improvement of occupational education. Its general purpose is to stimulate, encourage, and coordinate occupational research activities at the State Department of Education, the Community College System, various other sections of the University of Hawaii, the State Department of Labor and Industrial Relations and other agencies.

The state RCU should establish a direct relationship to the Director of Vocational Education and serve as his research arm. It should also work in close consultation with the State Commission on Manpower and Full Employment because this latter agency has similar concerns.

Each yearly vocational education state plan should make the necessary fiscal provisions for research and evaluation. Research ventures should be formulated under the aegis of the RCU, and that agency should secure the federal, state and private funds to finance some of the necessary effort. The varied research problems suggested in the Proceedings Report of the joint Manpower-Vocational Education Research Seminar is an indication of the areas of potential research.[17] (Also see Appendix I).

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[17] Proceedings Report, Manpower-Vocational Education Research Seminar, Honolulu, Hawaii, May 23, 1967.

Flexibility of the Community College Programs

If vocational education is to provide opportunities for students of widely varying levels of intelligence, aptitude, capability, aspiration, and interest--for both adults and youth, the talented and the handicapped, the ambitious and the not so ambitious--then we must develop a wider diversity of programs at the community college level.

There are promising tools for flexibility which now are not in use.

1. Short-term programs enable a student to concentrate on a major specialty by requiring him to attend a minimum of related and general education classes.

   While it is ideal to have all students of occupational education complete an Associate in Science degree, students frequently need to complete an accelerated training program and get a job quickly. They can continue their education in the evening if they so desire.

   The community colleges have short-term "certificate" programs, but because of inflexibility of scheduling, they are not as effective as they could be. It now takes students in some programs just as long to finish a certificate program of 32 units as it does to finish an Associate in Science program of 62 units. This is because many occupational classes are offered only once a year. This makes it particularly difficult for a student who fails a course to take it over within a reasonable time.

2. Smaller course units are a key to short-term programs and flexible class schedules.

   At present, many of the courses run in 7- to 10-unit blocks. The courses are so bulky that it is impossible to offer them in the evenings, which excludes employed persons who might like to upgrade themselves and discourages industry from releasing their employees part time to attend school.

It makes for less uniform instruction, because the subject matter is so broad that teachers sometimes are not equipped to cover all the course material well.

Students frequently know a good part of the subject matter of such large courses. However, the system does not lend itself to crediting them (by examination) for their competence, and the student is subjected to a good deal of overlapping.

3. Special summer programs can add a large measure of flexibility. A six- to nine-week course is sufficient for those who want to go to work in such semiskilled jobs as typist, clerk, or many of the jobs in the travel industry.
4. Extended day programs enable adults to upgrade their knowledge and skills. With smaller course units, persons can attend school in the evenings and earn a certificate, an Associate in Science degree, or prepare for university work.
5. Advanced placement of students can eliminate much unnecessary duplication. Students who have completed three years of high school work in electricity, electronics, or woodworking should be allowed to pass such basic courses by examination at the community college level and go on to their level of competence, but instead they frequently find themselves in a class of beginning students.

   Some advanced placement is being done in the colleges, but, again, the large course units have been a major barrier.

6. Early admission of high school students into the colleges allows those students who make a vocational choice early to pursue their ambitions for training while still in high school.

   Early admissions are occasionally allowed now but the program is spotty and lacks a clearly established policy.

7. On-the-job or cooperative training provides the student with an economical and realistic education. The institutions which have the responsibility of conducting vocational-technical education classes should be aware of the occupational training offered by business, industry, and Pearl Harbor Naval Shipyard. These employer groups generally have expensive and modern equipment that is not available at the public schools.

   When the colleges cannot justify a training program due to lack of students or equipment or the need for a category of workers is a temporary one, it may be feasible to coordinate and supervise a cooperative program. In general, on-the-job or cooperative training provides supplementary instruction and the schools should assist students to take advantage of such training.

Recommendations

Smaller unit courses should be developed by the community colleges. This should be followed by establishing one-year certification programs, special summer programs, and extended day programs.

More diversified extended day programs enable adults to upgrade their knowledge and skills, achieve their long range personal and occupational goals, extend their cultural interests, prepare for collegiate work, and develop vocational interests and skills.

Policies and procedures for early admissions and advanced student placement should be clearly spelled out and disseminated through the D.O.E. and the community colleges.

Two kinds of examinations should be established: examination for placement and examination for credit. The former is used mostly for grouping students with similar preparation and skills while the latter is used for students who may challenge a course and receive credits for it upon passing the examination. The placement examination in some instances may be used to determine whether a high school student may participate in the early admission program. For some areas the placement examination may include the testing of manipulative skills as well as the testing of concepts.

The feasibility of on-the-job and/or cooperative training for different occupational areas should be studied and implemented.

Itinerant Teacher Program

An itinerant teacher program also would expand flexibility. Itinerant teachers should work through remote areas of the State with course material designed specifically for people in outlying areas.

Recommendation

The Community College System should develop this program. The D.O.E. should make classrooms available in the public schools for this purpose and the Community College System should provide itinerant teachers.

Students with Special Needs

The role of the community college is not merely to serve the post-secondary student but to meet the needs of the adult, apprentice, and students with special needs whose handicaps prevent them from succeeding in regular occupational programs. It should also serve a "salvaging function" by providing opportunities for those students whose previous achievements and preparation do not meet the necessary requirements for entry into an occupational program.

Recommendation

Remedial classes should be made available to help the lower ability and less motivated students attain success in the regular programs.

Learning laboratories should be established to provide additional help to these students. The laboratories will enable the learner to come in any time during the day or evening to watch a film or to study various lessons via teaching machine, overhead projector, tape recorder, educational television or any combination of the above.

COUNSELING AND GUIDANCE

THE NECESSARY LINK TO THE WORLD OF WORK

Occupational Information

Solid counseling and guidance of a student who is planning his future life depends on providing accurate and current information on job opportunities and job requirements. A tremendous amount of data is available and more is being produced all the time.[18] But too seldom does the message sift down to the students.

Data frequently is not published in a form intelligible even to counselors, and there is no systematic flow of information from its varied sources into the schools.[19]

Recommendation

An occupational information service should be established in the secondary school system. The functions of interpreting and systematically disseminating occupational data for school utilization would be the primary task. This service should be administered through the Guidance and Special Education Branch of the D.O.E.

Faculty Emphasis Plan

The Community Colleges should consider adopting the so-called "faculty emphasis" plan of counseling and guidance.

In this plan, instructors are assigned 25 to 30 students, for whom they are responsible during the students' entire enrollment. The faculty advisor's main task is helping plan study programs, arranging schedules, and answering questions on occupational opportunities and requirements.

The student may choose to discuss personal problems with either his faculty advisor or a professional counselor.

This plan can reach every student and gives each a personal friend on campus. He is not "just another number."

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[18] See Appendix D.

[19] See Wilensky Report, Appendix E.

This plan frees professional counselors for tasks which only they are qualified to perform--coordination of the overall advisory program, consultation with faculty-advisors on student problems, helping students who choose to quit before completing a training program, and providing professional guidance sessions with individuals and groups.

Counselors also should be engaged in dialogue with the instructional staff on matters of curriculum and motivation of students.

Recommendation

The guidance and counseling programs of the D.O.E., Community Colleges, and the Employment Service of the Department of Labor and Industrial Relations should be coordinated.

The students should be aware of the fact that the community college curriculum is an open-ended one in that it prepares them for job entry as well as a transferable education which may lead to a baccalaureate degree. Occupational educators and counselors should be cognizant of the opportunities available for the "upward bound" students in the four-year colleges on the mainland.

Flow charts for the various occupations should be developed to enable the student to see at a glance the requirements and prerequisites for the different job objectives. The use of flow charts is one method of helping to minimize the problems in articulation. They may also be used to assist counselors in doing a better job of vocational guidance and counseling. (See Appendix G.)

ADMINISTRATIVE REORGANIZATION

SOME NEW APPROACHES

Hawaii Technical School

Act 39, Session Laws of Hawaii, 1964, authorized the Board of Regents to establish community colleges and to include four of the existing D.O.E.'s technical schools in this system. As a result of the mandate the technical school on the Island of Hawaii (Hawaii Technical School) was exempted and still operates under the Department of Education.

The School's position under the D.O.E. makes statewide planning and coordination of post-secondary education awkward and results in inequities to the School's students. For example, Hawaii Technical School students receive only a certificate for completing a course comparable to the community colleges' associate degree program. The label of the institution alone, "technical school," connotes considerably less prestige than "college."

Recommendation

The Hawaii Technical School should be placed under the jurisdiction of the Community College System, University of Hawaii. The School should continue to provide occupational and occupation-related instruction, leaving transfer courses to the jurisdiction of the Hilo Campus of the University of Hawaii.

Students of the Hawaii Technical School who elect to take supplemental courses at the Hilo Campus should not be required to pay additional tuition or fees to the Hilo Campus.

Manpower Development and Training Program

The original purpose of the Manpower Development and Training Act was to establish training programs for persons who were either unemployed or underemployed. Subsequent amendments to the Act authorized the Secretary of Labor to certify individuals to receive up to 20 weeks of training in "basic education skills," assist skilled workers financially so that they may move to areas where their skills are in demand, provide special counseling and training programs for unemployed youth 16 years old or older, and allow $20 a week training allowance for high school graduates or youth 17 years old and older who have dropped out of school for a year and cannot be persuaded to return.

Locally, the Department of Labor and Industrial Relations and Department of Education are jointly responsible for the administration of the program. The former determines the manpower need, and tests, screens, and counsels the applicants. The Department of Education establishes and coordinates the training programs.

This is a major program. In fiscal year 1966-67, $338,943 in Federal funds matched by 10 percent State funds was used to provide either partial or complete training to 804 enrollees.

Because M.D.T.A. aims at training a post-high school population for specific occupations, its continued administration by the D.O.E. is inappropriate.

Recommendation

Administration of the training portion of the Manpower Development and Training Act programs should be transferred from the D.O.E. to the Community College System. In transferring the program, the current administrative setup will be utilized.

The Department of Labor and Industrial Relations concurs with this recommendation. (See Appendix F.)

Young Farmer Program

The majority of those enrolled in the Young Farmer Program have completed high school. Since the Program is essentially a post-secondary program, Young Farmers should not be under the administration of the Department of Education.

However, the Young Farmer Program has made a significant contribution to the vocational agriculture program and the Future Farmers of America. State support should be continued, but by an appropriate organization.

Recommendation

The possibility of sponsorship of the Young Farmer Program by the Cooperative Agriculture Extension Service at the University of Hawaii should be explored. Initial proposals for such a move already have been discussed by the Extension Service and the D.O.E.

Cooperative Education and Work Experience Programs

Cooperative Education Programs of the D.O.E. provide supervised on-the-job training along with formal classroom instruction. The definition prepared by the American Vocational Association defines cooperative education as

> . . . a program for persons who are enrolled in a school and who, through a cooperative arrangement between the school and employers, receive part-time vocational instruction in the school and on-the-job training through part-time employment. It provides for alternation of study in school with a job in industry or business, the two experiences being planned and supervised by school and employer so that each contributes definitely to the student's development in his chosen occupation. Work periods and school attendance may be on alternate days, weeks, or other periods of time, but the hours at work are during the school day and equal or exceed the hours spent in school during the regular school year. This plan of training is used extensively in various phases of vocational education.[20]

A coordinating teacher relates the subject matter of classroom instruction with on-the-job training. The job placement function is also performed by the teacher.

Work experience is defined by the American Vocational Association as:

> . . . employment undertaken by a student while attending school. The job may be designed to provide practical experience of a general character in the work-a-day world.[21]

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[20] Definitions of Terms in Vocational Technical and Practical Arts Education, American Vocational Association, Inc., p. 6.

[21] Ibid., p. 22.

Analysis of the two definitions indicates the appropriateness of work experience programs in light of the proposed guidelines and criteria of the master plan. Harold Wilensky states, "Let youngsters who feel demeaned or bored by the school curriculum learn work orientation on a job part-time."[22] He adds that work experience provides "work orientation and habits that will help them in both school and the labor market."[23]

A work experience program would have these other advantages:

1. Teachers would be relieved of a job placement function which represents an uneconomic use of their time and which they are inadequately equipped to perform.
2. Hawaii Employment Service would be brought into an active relationship with the schools which should generate useful information for both agencies and thereby promote better performance. Whatever advantages along these lines presently accrue to business and the schools under the cooperating education program should continue, and be strengthened under a work experience program.
3. Work experience would take place in a more realistic setting. The student would recognize that he is in a genuine employment relationship, working for pay, and must meet commercial standards of performance. His own status, self-image, and motivation should benefit.

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[22] Harold Wilensky. "Reflections on the Rough Draft of the State Master Plan for Vocational Education in Hawaii."

[23] Ibid.

4. Curriculum planning would have a more realistic basis. The amount and quality of on-the-job instruction received under the Cooperative Education Programs is not subject to measurement or control, although it displaces part of the school day.
5. Curriculum would be strengthened. Under present arrangements, cooperative education students are deprived of all but two hours per day of general education (one hour of English, one hour of Social Studies).
6. School counselors would benefit from a more direct relationship with the State Employment Service and with employers.

Recommendation

The feasibility of replacing the D.O.E. Cooperative Education Program with a Work-Experience Program should be investigated. The placement function of the Work-Experience Program should be performed by the counselors of the State Employment Service (See Appendix F).

In this investigation, evaluators should take special note of the contributions of such student organizations as the Distributive Education Clubs of America.

MAJOR UNRESOLVED ISSUES

PRIORITY ITEMS FOR A NEW STATE BOARD OF VOCATIONAL EDUCATION

For lack of time or sufficient data--and sometimes both--several major areas of vocational education are deferred as priority items of the utmost urgency to be undertaken by the new Board of Vocational Education.

The views and perspective of the Coordinating Committee are as follows:

Apprenticeship Training

Laws governing the apprenticeship training program require an apprentice to engage in 4,000 or more hours of work experience and receive 144 hours a year of related instruction until his apprenticeship is completed. (It is recognized that there is a seldom-used administrative process whereby the related instruction requirements can be lowered.)

The related instruction of the indentured apprentice in Hawaii is provided by the Community Colleges in cooperation with Joint Apprenticeship Committees, which are employer-union bodies.

In Honolulu alone, there are about 1,350 indentured apprentices at any given time. Over the past three years, an average of 188 apprentices have completed their training each year.

This program is beset with numerous problems. During the fiscal year 1966-67, 47.1% of the apprentices in the State dropped out of the program before completing 1,000 of the minimum 4,000 hours of work experience.

Some apprenticeship programs run as long as three to five years and tie up much-needed educational personnel and facilities.

Because of the complexity of the issues of apprenticeship, specific answers are not now at hand.

Recommendation

An intensive study of apprenticeship training should be undertaken under the direction of the Coordinating Council for Vocational Education.

Federal Financing of Vocational Education

According to the Hatanaka Report (Appendix F, Table 1) the State of Hawaii receives $1,102,100 in Federal funds through the various Federal vocational education acts. This amount likely will increase many times over during the next few years.

The present distribution of Federal funds between the Department of Education and Community College System does not seem to follow systematic guidelines or procedures. There is no joint planning for expenditure of the Federal money. The practices used when the technical schools were in operation are still followed.

Recommendation

The new Board of Vocational Education should give high priority to establishing a systematic, equitable method of disbursing Federal funds among the community colleges and to the D.O.E.

Problem of Secondary School Dropouts

The dropout problem is usually associated with vocational education, and it is valid to say that elements of vocational education can effectively be utilized to reinforce academic learnings for those experiencing achievement problems.

Although the dropout reference is prevalent, the problem is more properly a concern of Special Education. A separate report on compensatory programs is being prepared for the Legislature; this is seen as the initial step in forming a model State dropout program.

It is suggested that this report will be of considerable relevance to the new Board of Vocational Education.

Also, a modest pilot program to aid dropouts involving a "systems" or coordinated effort by the D.O.E., the Community Action Program, the Department of Labor and Industrial Relations and several manpower programs has been started and is now being overseen by the State Manpower Commission (for details, see Appendix H).

Continuing Education

The offerings of the various Adult and Continuing Education programs are so diverse and broad in scope as to require a close examination of the entire effort. The objectives, program goals and ensuing structures particularly need review.

Present secondary school adult education courses range from the arts to basic education and include offerings in vocational education. Since the vocational education programs are aimed at specific job entry, they no longer have an appropriate place under the present D.O.E. setup. Since the main educational mission of the D.O.E. is the K-12 program, the entire Adult Education offering should be studied.

Continuing Education should be an important function of the Community College. The College should be sensitive to the needs of the community and provide classes to enable adults to upgrade their knowledge and skills, achieve long-range personal and occupational goals, program for collegiate work, develop vocational interests and skills, and assist business and industry to develop qualified workers and supervisors into teachers for their in-plant training programs.

Varied program funding, particularly Federal assistance, makes present concerns extremely complex in the Adult Education and Continuing Education field.

Recommendation

An immediate program review should develop coordination procedures between the D.O.E. and the University of Hawaii.[24]

Courses which, upon review, are identified as training for occupational skills and aimed at job entry or job upgrading should be transferred from the present D.O.E. Adult Education program.

A general study should precede any major changes. Relevant action should be taken by the new Board of Vocational Education in conjunction with the Vice President for Continuing Eduation and Community Service of the University of Hawaii.

Counseling and Guidance

Many major issues surround the field of counseling and guidance which are not dealt with in this Plan. By request of House Resolution 26 of the 1965 Legislature, the D.O.E. is preparing a major study which, it is understood, will indicate a restructuring of the counseling and guidance program.

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[24] Abbott Kaplan, "A Study of Continuing Education and Public Service at the University of Hawaii," (mimeographed) 1966.

It is suggested that this report will have major implications for study and action by the new Board of Vocational Education.

Teacher Training

The efficiency and effectiveness of implementing the vocational education master plan will depend primarily upon competent teachers. Pre-service training programs have long-term implications while in-service programs are directed toward immediate concerns.

The teacher trainer, whose position is established through the cooperative agreement between the College of Education, University of Hawaii, and the State Board for Vocational Education, should assist in developing pre-service education for apprenticeship teachers as well as for teachers of business and industry's training programs.

Pre-service education should be offered continuously so that journeymen and supervisors in the field aspiring to become teachers may take the necessary courses to meet minimum teacher qualification requirements and high school business and industrial arts teachers desiring to teach in a college can meet the additional requirements of the community college. The pool of qualified teachers, when established, may be used to fill vacancies and to furnish substitutes for teachers on sick leave or educational leave.

Recommendation

In light of the new program recommendations, the vital issues of occupational teacher training programs demand a comprehensive study. Since program direction is the primary concern of this Master Plan, a separate planning and development project should be initiated for teacher training. Initial review of occupational training should be undertaken by the Teacher Education Coordinating Committee, which is legally constituted for this purpose. Their findings should be forwarded to the new Board of Vocational Education.

APPENDIX A

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S. C. R. NO. 43

SENATE CONCURRENT RESOLUTION

RELATING TO A COORDINATING COMMITTEE OF THE BOARD OF EDUCATION AND THE BOARD OF REGENTS OF THE UNIVERSITY OF HAWAII TO DEVELOP A COMPREHENSIVE STATE MASTER PLAN FOR VOCATIONAL EDUCATION IN CLOSE CONSULTATION WITH THE COMMISSION ON MANPOWER AND FULL EMPLOYMENT AND OTHER AGENCIES.

WHEREAS, it is of great urgency to the citizens of this State, adults as well as youths, that there be developed a comprehensive state master plan for vocational education, of which federal assistance programs necessarily constitute only a part, consisting of realistic goals; programs at all levels of education for their implementation; and a timetable governing such implementation;

WHEREAS, there have been introduced in the 1967 General Session of the Fourth State Legislature a number of measures relating to the establishment of a separate board for vocational education which evidence a recognition by legislators of such urgency;

WHEREAS, the Board of Education is designated by Section 42-21, Revised Laws of Hawaii 1955, as amended, as the state board for vocational education, and in that capacity is authorized by Section 42-22 to apply for, receive, allocate, distribute, and regulate for the State federal assistance funds for vocational education;

WHEREAS, the Board of Education, as the state board for vocational education and in order to qualify this State for such federal assistance funds, must submit to the federal government plans for the utilization of such funds at all levels of education which meet the requirements of the various federal vocational education programs;

WHEREAS, the Board of Regents of the University of Hawaii, as executive head of the community college system, properly should have an important part in the development and implementation of any such comprehensive state master plan and of any such federally assisted vocational education programs;

4/25/67 Educ.

WHEREAS, the Commission on Manpower and Full Employment and other agencies, both public and private, have substantial interests, responsibilities, and contributions to make in the development and implementation of any such comprehensive state master plan;

WHEREAS, the Board of Education, which was elected for the first time in 1966, has testified before the Senate Committee on Education that, as a newly-elected body, it requires only time to complete its studies and plans in vocational education;

WHEREAS, both the Senate Committee on Education and the Senate Committee on Higher Education believe that any such comprehensive state master plan should properly be developed in a coordinated effort by those agencies which would be primarily responsible for its implementation but only after close consultation with other public and private agencies involved in vocational education; now, therefore,

BE IT RESOLVED by the Senate of the Fourth Legislature of the State of Hawaii, General Session of 1967, the House of Representatives concurring, that the Board of Education and the Board of Regents be instructed to establish a coordinating committee consisting of members of both boards in equal numbers, which coordinating committee, in close consultation with the Commission on Manpower and Full Employment and such other public and private agencies with interests, responsibilities, and contributions to make in the field of vocational education, shall develop a comprehensive state master plan for vocational education;

BE IT FURTHER RESOLVED that a copy of the state master plan be distributed to each person then serving as a member of the Senate or the House of Representatives of the Fourth State Legislature, twenty days before the Budget Session of 1968 convenes, and that the state master plan be presented to the Legislature upon such convening; and

BE IT FURTHER RESOLVED that certified copies of this concurrent resolution be transmitted to the Board of Education, the Board of Regents of the University of Hawaii, the Superintendent of Education, the President of the University of Hawaii, and the Commission on Manpower and Full Employment.

OFFERED BY Nelson K. Doi

Walter M. Heen

Larry N. Kuriyama

Percy K. Mirikitani

William E. Fernandes

John J. Hulten

Donald Ching

Anderson

Kawasaki

James Clark

Porteus

APPENDIX B

Federal Regulations Pertaining to a State Board for Vocational Education

104.3 State board.

(a) Designation or creation. As a condition for the receipt of its allotments of Federal funds, the acts require that the State, through its legislative authority, designate or create a State board of not less than three members having all necessary power to cooperate with the Office of Education in the administration of the State plan. The State plan shall identify the State board so designated and created. In administering the vocational education programs for which allotments are made to the States under the acts, the Office of Education will deal only through the State board and its authorized representatives except as otherwise provided for in the State plan. (See for example 104.9.)

(b) Composition of State board or State advisory council. (1) The State plan shall provide that either the State board or a State advisory council created or designated by the State board to consult with the State board in carrying out the State plan include as members (i) persons familiar with the vocational education needs of management and labor in the State, and (ii) a person or persons representative of junior colleges, technical institutes, or other institutions of higher education which provide programs of technical or vocational training meeting the description and requirements of vocational instruction provided in 104.13. The State plan shall describe the criteria to be followed in determining whether such persons meet such qualifications. With respect to persons familiar with the vocational needs of management and labor in the State, such criteria shall indicate that such familiarity will have been acquired directly through recent actual experience and work in or association with the fields of management and labor in the State. With respect to a person or persons representative of junior colleges, technical institutes, and other institutions of higher education in the State administering vocational education programs meeting the standards and requirements outlined in 104.13, such criteria shall indicate the necessity of recent association with such an institution in the State (or, if no institution exists within the State, association with such an institution outside the State) and familiarity with that institution's vocational education programs.

SOURCE: "Administration of Vocational Education Rules and Regulations," Vocational Education Bulletin No. 1, Revised 1966, p. 9

APPENDIX C

Suggested Cluster Approach

Intermediate Level (grades 7-9)

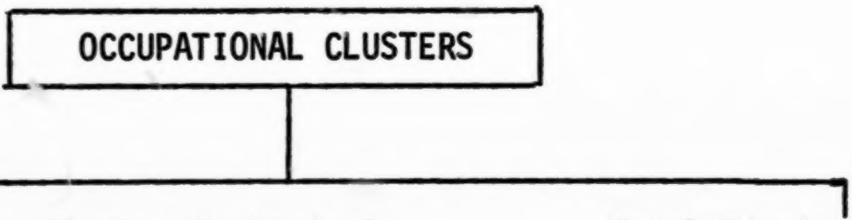
In place of the required Practical Arts Program in the 8th grade, an industrial and/or technology cluster program be developed with the established criteria. Existing facilities can be effectively utilized as laboratories to implement this program.

High School Level (grades 10-12)

The present Practical Arts-Vocational Education Program be replaced by developing an Occupational Cluster Program. Most promising for initial development are the occupational clusters in construction, Business-office, Hotel-restaurant, and health services.

Examples of Occupational Clusters:

Construction
Electricity and Electronics
Repair service and maintenance
Mechanical and Fabrication



OCCUPATIONAL CLUSTERS

Construction
Those occupations dealing with the building of homes.

Carpenter
Electrician
Mason
Painter
Plumber

Electro-Mechanical Installation and Repair
Those occupations dealing with installation and repair of electrical and mechanical equipment found in homes and business offices.

Air Conditioning and refrigeration serviceman

Business Machine Serviceman

Home Appliance Serviceman

Radio-TV Serviceman

Metal Forming and Fabrication
Those occupations dealing with machinery, bending and joining of metals.

Assembler
Machinist
Sheet Metal Worker
Welder

Source: Donald Maley, "An Investigation and Development of the Cluster Concept as a Program in Vocational Education at the Secondary School Level." University of Maryland, College Park, Maryland, 1966.

Development of Course Outlines

The development of course outlines is dependent upon a series of steps. Primary emphasis is upon the occupations to determine areas of human requirement for each job performance. Methods of analyzing occupations to determine commonalities utilized the following procedure:

1. Development of task identification.

    Definition of task.

    A task describes the work performed by an individual in an occupation and consists of observable human behavior involving more than one area of human requirement.

    Level 0

    The task is not needed for the occupation and would not be included for further analysis.

    Level 1

    The task is needed for entry into the occupation and will be included for further analysis.

    Level 2

    The task is not needed for entry into the occupation but will be needed soon after entry and will be included for further analysis.

2. Identification of Common Areas of Human Requirement

    Communication, measurement, mathematics, science, skills, and information were identified that are required for the performance of each task.

    Specific areas of each are as follows:

    Communications

    Vocabulary
    Symbols
    Drawings and blueprints
    Systems of communication
    Speech
    English
    Maps

Measurement

- Time
- Temperature
- Weight
- Volume
- Length, width, and depth
- Meters (electrical and mechanical)
- Instruments
- Systems of measurement

Skills

- Hand
- Mental
- Machine

Mathematics and Science

Information

- Technical
- Operational
- Occupational
- Economic
- Social
- Safety
- Personal hygiene
- Personal standards
- Occupational and job standards

An analysis is then made to identify the common areas of human requirement for each occupational cluster. A frequency tabulation is made to determine the areas of human requirement which will be the basis for the course outlines.

APPENDIX D

October 20, 1967

Memo to:	Members of the Operational Staff Vocational Education Master Plan
From:	Field Staff - Department of Education, Department of Labor and Industrial Relations and the Community College System
Subject:	Research and Statistical Data Planned in Support of State Master Plan for Vocational Education

A meeting of the various department representatives in research and statistics met to outline a plan to support the State Master Plan for Vocational Education by identifying the various statistical and research data published or documented by the various departments. The meeting was held on Monday, October 16, 1967 and Thursday, October 19, 1967.

Each department presented research and statistical reports which are presently on-going and planned for the near future.

Department of Education

Research and statistical data planned for the current school year, which may be expected to be continued thereafter, consists primarily of the Secondary Student Status Survey and the Annual Class Size Study.

A. The Secondary Student Status Survey was an outgrowth of the Office of Research's plan to combine and restructure all surveys currently conducted that involves gathering data on students in the secondary level. This survey will be based on the following factors for 9-12 grades and first year graduates.

1. Educational Attainment: Promotion and retention rates by percentages in grades 9 to 12. Also, the holding power from the 9th grade year to high school graduation will be shown.

   Regarding courses pursued, a distribution chart of subject areas elected by grade levels will be shown.

2. Dropout Study

   This study, planned for the first time, will delve into the distribution of various characteristics (reasons for dropping, school status, standardized test scores, school history, family background) of dropouts from which profiles may be established and some predisposing conditions identified.

3. Annual Survey of Graduate Plans

   This annual survey of both public and private high school seniors produces data relating to the number of students planning to enter the employment field, go on for further education, enter military service or have other plans. Curriculum planning, educational guidance, advanced training, and school master planning have primarily become the areas this survey now serves with pertinent data.

4. Annual Follow-Up Survey

   This annual survey of both public and private high school ascertains the activities of former students a year after high school graduation.

B. Enrollment forecasts K-12 by grade and by school

Statistical boundaries by school attendance area and census tracts will be utilized for this forecast.

C. Annual Class Size Study

This detailed study encompasses the following reports:

1. Detailed Report A "Class Size Study by Schools." This report shows school by school course description and student enrollment by grade.
2. Detailed Report B "Class Size Study by School Curriculum Programs." This report shows course offering, schools offering the course and class size.
3. Detailed Report C "Class Size Study by Rank Order of Size Within Curriculum Programs." This report contains the same data as Report "B" but lists in the rank order of class size within each curriculum program.
4. Detailed Report D "Individual Teacher Class Load by Schools." This report shows the number of different students a teacher must cope with in a weekly schedule.
5. Detailed Report E "Individual Teacher Class Load, Rank Order for Entire State." This report contains the same data as Report "D" but lists in rank order the total number of different students a teacher must cope with in a weekly schedule.
6. "Course of Study Listing by Schools." This report shows courses offered, student enrollment, and average class size for all schools in the state.

Planned activities for the current fiscal year include:

1. Interim pupil accounting system for dropout and potential dropout. Frequent listing by the Data Processing Office to show and identify students who are current dropouts and who may be potential dropouts.
2. School Planning Statistics Manual - A 200 page manual which shows statistical data by census tracts and CCD for all Public Schools of Hawaii.

Department of Labor and Industrial Relations

Major on-going manpower research to be continued which should be useful for vocational education planning are:

1. Monthly Labor Force Estimates. This publication shows employment by industry and unemployment for the State of Hawaii and separately for each county and is the most valuable tool for the analysis of the labor economy.
2. Monthly Manpower Outlook. The current manpower supply and demand picture is shown for key occupations classified into high demand, moderate demand, balanced supply and demand, supply exceeds demand, and insignificant requirements by major industry and by county.
3. Unfilled Job Openings in Honolulu. Although confined to Oahu, this quarterly listing of job openings placed with the State Employment Service and remaining unfilled for 30 days or more provides a good indicator of the occupations for which employers are experiencing difficulty in locating workers.
4. Annual Economic Assumptions. Prepared annually on a fiscal year basis, this broad analysis and assumptions for the coming year provides a basis for general planning by the government and private sectors.

Planned activities for the current fiscal year include:

1. The preparation and dissemination of occupational job guides. A series of guides for a number of occupations showing job content, advancement possibilities, training and experience required, prospects for employment and working conditions including pay and hours will be prepared for the use of counselors and educators.
2. Industry manpower skill surveys. As continuing effort, studies will be conducted on the past, current, and future manpower supply and demand requirements for specific industries, with primary emphasis on occupational analysis.

3. Monthly manpower indicator publication. A composite and timely report on the current labor demand and supply picture, employment and unemployment developments, and other items of interest in manpower developments, this report should provide a quick analysis of a key economic indicator of the state.

Community College System, University of Hawaii

Research projects relating to vocational education programs which are planned for the current year by the Community College System include the following:

1. A future-plans questionnaire survey of Hawaii high school seniors, with particular emphasis on students planning to attend the community colleges. Statistical summaries to be compiled include distributions of students by college and programs desired, by local addresses, high schools and other pertinent categories. Correlation between intended majors and high school programs enrolled in, as well as summary distributions of students intending to enroll in other institutions and major desired, and reasons given by students not intending to further their education will also be summarized.

2. Program feasibility studies. These are continuing projects aimed at determining the feasibility of new programs and maintenance of existing programs in view of employment opportunities. Emphasis will be placed on development of effective program outlines and creating student interest in these programs. Currently, studies are underway on health service and hotel occupation programs.

3. A follow-up study to identify the post-graduation activities of college students and subsequently, to evaluate the effectiveness of the instructional program maintained by the colleges. Planning for this project will be initiated during the year.

4. A study of student withdrawals to evaluate the circumstances of these withdrawals, post-college activities of these students and the relationship, if any, between the program enrolled in and these activities.

5. A study on the effectiveness of certain test instruments, among which is the General Aptitude Test Battery used by the Hawaii State Employment Service, as predictors for placement and advisement of students in vocational programs.

6. Update of enrollment projections for ten year period in vocational programs.

In addition, the System is scheduling a number of "in-house projects" which have a peripheral relationship to vocational education programs. These include faculty and program evaluation, a study of grading practices, and on the academic year calendar.

Discussion

Initial review of the current statistical and planned data reporting projects shows tremendous amount of statistical information available to guide the Master Planning Committee. Although there seem to be a need for more pointed and specific information, this data base as presented by three key agencies shows a possibility in the development of a baseline data file.

Due to the tremendous amount of data that needs to be stored and filed, computer-based programming and retrieval system seems eminent at this time.

APPENDIX E

REFLECTIONS ON THE ROUGH DRAFT OF THE STATE MASTER PLAN FOR VOCATIONAL EDUCATION IN HAWAII, NOVEMBER 18, 1967, AND SUPPORTING DOCUMENTS

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I am enthusiastic about the general direction of the plan, about the Operational Committee's grasp of the intellectual and administrative issues involved, and about the possibilities it presents for meeting the challenge of change. The plan accents the need to provide an optimal base for life-time learning, a realistic preparation for work; it also affirms the importance of academic values for the occupational achievement of the student and the enrichment of community life.

A balanced approach to the problem of education and work will free the school for its main academic tasks and, at the same time, will guide the student toward a wide range of specific training programs and job opportunities and a life-time of diversified learning.

The fact that there is one school system for the whole State gives Hawaii a unique advantage in educational planning. If the spirit and general orientation of the Master Plan as it is now developing can be implemented in law, in school administration, and in staffing, Hawaii will rank among the top few states in the union in the vigor and good sense of its attack on manpower and vocational education problems.

The views and data I present below tend to support the proposals in the report. My critical comments on specific points should not obscure my favorable impression of the whole.

What Does It Mean To Say, "The Best Vocational Education Is A Good 'General' or 'Basic' Education?"

I sense that some professional educators and employer representatives in Hawaii are concerned that the public schools will fail the youngsters if they do not "teach them a skill or craft," or "saleable skill;" that the large majority who do not finish college will not know "how to get a job." Some employers also worry that if the schools are upgraded and the fraction of youth going on to college continues to climb, then the supply of hotel cooks, chamber maids, and other service workers in the expanding tourist industry will dry up. I should therefore like to state the underlying assumptions of educators and manpower experts who think that such anxieties are unwarranted.

1. An active manpower policy linked to a modern vocational education plan must expand and diversify specialized intensive training programs, and at the same time and more urgently, upgrade the general education system on which all training depends. The specific training programs mentioned in the Master Plan report will be cheaper and more effective if we recognize that the over-riding demand of trainers and employers is for people who are literate, adaptable, and have disciplined work habits, or in other words if we concentrate on a better base for later learning. The concern with the quality of basic education is adequately justified in the report but one additional fact may dramatize it: One in five of those young men who fail the Armed Forces Qualifying Test has a high school diploma (the passing score is about an eighth-grade equivalent).

   Planners who emphasize basic education are not against programs of job training tailor-made for the needs of special populations and growing industries; the argument is instead about when these programs should come in the sequence of educational experiences and who should receive what specialized training.

   To oversimplify, the Master Plan in essence says: "K-12 is sacred; keep it academic, give it more substance, let the specific vocational training come later." I would go further: In the next decade or so Hawaii, like other advanced and growing States, will have a vast majority of its college-aged youth (18-22) in college; and the rest of the population will also be exposed to a demand for greater literacy and work discipline. We should therefore be thinking about K-14 as the time for basic education and develop in our schools, colleges, and communities more opportunities for continuing education for subsequent years.

2. The facts about job entry requirements, job mobility and occupational "choice" suggest that an accent on early vocationalism, and the development of narrow specialized curricula are unrealistic.

   a. Occupations, and the skills they demand, continue to change very rapidly, with new occupations, new specialities, and new jobs emerging continually. The conservative estimate that, beginning with his first full-time job held at least six months, the average man holds 12 different jobs in a 46-year worklife also indicates that most of these job shifts involve a change in both occupation and industry (by the census definitions of major categories). Only one man in five will remain in the same major occupational category for his entire life.

      For the young, then, the problem of "vocational education" is not to train for the first or second job; it is, again, to provide an optimal base for lifetime learning.

b. Increasingly, what the white collar and professional and even skilled manual jobs require are general conceptual or cognitive abilities (reading, writing, abstract thinking, etc.) and human relations skills--skills not taught exclusively in any one department or one curriculum, and skills which employers increasingly believe are acquired by the college graduate, whatever his major.

c. The relation between occupational "choice" in high school and later occupational fate is so loose that these choices should not be taken seriously. Indeed, the actual curriculum the student enrolls in does not appear to make a difference, and, more startling, this loose relationship between curriculum and career applies even to college graduates.

Although good longitudinal studies on this matter are rare, the ephemeral character of the career goals of secondary school student is plain. Data from Project Talent's study by questionnaire of the stability of career plans of a large probability sample of the entire high school population in the Spring of 1960 (weighted for specially interviewed non-respondents) show that about three in four of all boys graduating from high school change their original career goals within one year after graduation. Even choices for medicine, a profession whose practitioners are noted for their early commitments, are quite unstable: 65 percent of all young men who plan to become physicians when they are high school seniors had abandoned the idea one year after their class completed high school. Only about a third of the prospective lawyers and engineers and about a fifth of the prospective medical technicians held to those career choices a year later. Analysis of the total sample shows "very little stability to the ninth-, tenth-, eleventh-, and twelfth-grade plans of either boys or girls. The values varied between 17 percent of the ninth-grade boys with the same career plans four years later to 41 percent of the twelfth grade girls with the same plans one year later" (the latter reflecting the 59 percent who clung to their original intention of becoming "housewives").[1]

Less obvious are the findings of a Bureau of Labor Statistics follow-up of high school leavers in seven labor market areas: completion of industrial arts courses by boys had little effect on type of jobs obtained; dropouts and graduates fared about the same.[2]

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[1] John C. Flanagan and William Cooley, Project Talent One-Year Follow-up Studies (University of Pittsburgh, School of Education, Cooperative Research Project Number 2333, 1966), pp. 176-177 and Table 8-4.

[2] M. Plunkett, "School and Early Work Experience of Youth, 1952-1957," Occupational Outlook Quarterly, IV (1960), pp. 22-27. See the excellent review of similar studies by Martin R. Katz, Decisions and Values (New York: College Entrance Examination Board, 1963), Ch. III.

Finally what evidence we have suggests that this situation is typical of college graduates, too, although in lesser degree. The undergraduate major or even the first professional degree is not a good predictor of occupational fate. Some students, hearing about the growth of technical fields and the general increase in specialization, begin to calculate every choice they make (of an elective course, of a major) with an eye to some specific job, professional or semi-professional. We might want to make such students aware of the Wolfle report. This report and other data suggest that it is almost the exception rather than the rule for a student to take an undergraduate major (or a first professional degree) in one field and remain there for the whole of his career. True, at least nine in ten of the graduates of medical and dental schools practice medicine and dentistry. But the health fields are not typical. For example, of the living men who had majored in chemistry in undergraduate years at the University of Michigan and Ohio State University (and who were in the civilian labor force and not in full-time graduate study), only 27 percent were employed as chemists in 1953. The figure is 21 percent for psychology, 6 percent for the other social sciences, 27 percent for the humanities and arts, 59 percent for business and commerce, and so on. Even in such specialized fields as law, only 76 percent of law school graduates were practicing law--and only 68 percent of the engineers remained professional engineers.[3]

Or if we look at the undergraduate majors of graduate students, we see frequent shifts between fields--the undergraduate social science or business administration major moves to a law school, the chemistry or biology major or even the English major moves to a medical school, the education major takes graduate work in the humanities, while graduates in many fields move to schools of education and social work, and so on.

This is not to deny that there are literally thousands of occupations with prescribed entry requirements or typical routes of entry and advance.

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[3] Based on Table IV.1 in Dael Wolfle, America's Resources of Specialized Talent (New York: Harper, 1954), pp. 51 ff.

3. *The Frontier Programs of Vocational Education in the U. S.--those reflecting vocational goals appropriate to modern society*[4]*--all build on a solid general education*. For instance:

   a. *We need a greatly increased supply of professionals* in such fields as health, education, and welfare, as well as in science and engineering. Most of these professionals must begin with a liberal arts education. Even in something so "vocational" as engineering, there is growing recognition of the repeated obsolescence of engineering skills, which, to be useful over the worklife, must reflect a common core permitting quick retraining and refreshing.

   b. *We need much shorter periods of special training for semi-professional, semi-technical people* ("technical and kindred" is the fastest growing segment of that fast-growing census slice, "professional, technical, and kindred"). The best laboratory technician or draftsman has had a good background in mathematics, reading, and writing; the best stenographer or practical nurse, a good general high school education, followed by brief intensive, specialized training.

      The community colleges in Hawaii might offer more flexible, perhaps shorter programs for students entering such occupations.

   c. *We need to shorten our three- to five-year apprenticeships* in such trades as painting, carpentry, cement masonry--these and many more expanding trades could train men in a year, or even less. As it is, our long apprenticeship systems reach only a minority of those who practice: "over three-fifths of the workers employed in skilled trades with apprenticeship programs have never enrolled in any formal training programs;" they have learned through work experience.[5]

      Most high school graduates in Hawaii do not bother with apprenticeships and the existing programs tend to exclude the dropout. Yet, both high school graduates and dropouts can learn these trades by doing, once they have elsewhere learned basic literacy and work habits. Our apprenticeship systems not only fail to reach most of the people who do the work; they are the enemy of flexibility, the very quality we must educate for.

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[4] A cogent statement of these goals is in Richard A. Lester, *Manpower Planning in a Free Society* (Princeton: Princeton University Press, 1966), pp. 154 ff.

[5] Lester, *op. cit.*, p. 161. Our lengthy apprenticeship programs apparently train supervisors and other managers--the core of really skilled men who guide the others. George Strauss, "Apprenticeship: An Evaluation of the Need," in A. M. Ross, ed., *Employment Policy and the Labor Market* (Berkeley: University of California Press, 1965), p. 313.

Shorter apprenticeships in Hawaii would have the added advantage of freeing much-needed facilities in Honolulu Community College, where every available classroom is tied up four nights a week by apprentices.

There is room for a study of the place of apprenticeship training in Hawaii designed to locate the areas of possible change.

d. We need more work-experience programs. Let youngsters who feel demeaned or bored by the school curriculum learn work orientation on a job part-time; let them experiment with a variety of jobs, while they learn history, English, and mathematics in school.

The advantages are obvious. Part-time work helps keep potential dropouts in school. Most school leavers figure that the good jobs school leads to are not for them, so they drift out of school, get casual jobs, or hang about the street. Part-time jobs as part of the school program--work in hospitals, in city offices, in the police department, in industry--can give them a glimpse of their job chances, provide spending money, and, above all, give them work orientation and habits that will help them in both school and the labor market. The academic side of school becomes more meaningful, or at least more tolerable; the transition from school to work is made smoother; the world of work comes alive. In such work-experience programs, the academic side, far from being de-emphasized, can be intensified, drawing on the stronger motivation of the students.

e. We need more second-chance programs--refresher courses and in-service, on-the-job training--to adapt individuals to the special requirements of jobs in particular work places and to prepare them for promotion or to retrain them when skills become obsolete. But again, this has little to do with basic education in the schools.[6]

When we consider second-chance programs, there are three larger issues that we should confront: (1) the extent of industry's responsibility for solving its manpower problems; (2) the need for greater expansion of compensatory and salvage operations for the culturally deprived; (3) the need for schools and colleges to reach out for students who are not now served but could be.

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[6] In Europe, even on-the-job training includes a good deal of "theoretical" education--training in mathematics, language, science.

In its narrowest form, vocational education should be left mainly in the capable hands of the industries and military services who need the labor and can assure the relevance of the training they finance.

In a situation where shortages of labor exist side by side with pools of underemployed labor, employers have a special responsibility to improve their training and utilization of manpower. They cannot realistically say, "let the schools do it"--partly because the schools are overburdened and partly because there is no way to learn most jobs except in the place where the work is done. In Hawaii, as elsewhere, personnel managers can be more creative, take more risks; employers can relax hiring standards, intensify recruitment, re-structure jobs (as they did in World War II), do more training on the job, in short, dig deeper into the labor reserve. Does it make sense to consider importing thousands of workers from abroad to man the tourist industries when many local youths and women are available for a chance? It might be more economical to create the necessary flexible work schedules, active recruitment and training programs to meet their needs. If necessary, the State might consider training subsidies as an incentive for employers.

Schools and colleges, too, have a natural tendency to steer clear of tough cases, and insofar as vocational education has been successful, it has succeeded with the already literate, already work-oriented youngsters. Neither vocational education nor any other kind of education has reached many of the dropouts, cutouts, and pushouts. Especially in new programs and in areas of controversy, educators and government officials, afraid of recalcitrant clientele and anxious to minimize risks of failure, concentrate on salvaging the already saved.

Although I understand that the problem of the disadvantaged youth is to be discussed in a report separate from the State Master Plan for Vocational Education, it is clear that this population is perhaps the most important target for vocational education. In the years ahead we must be prepared to fund vast programs only hinted in the skirmish with poverty--programs designed to cope flexibly with the special needs of disadvantaged youth. We do not know the relative costs and benefits of such programs as the Job Corps, Neighborhood Youth Corps, MDTA institutional training programs, emergency public works, work relief, work-study programs, etc., for bringing the dropouts, cutouts, and pushouts into the economy and the community.

We are shocked to hear that agencies tackling at least moderately tough cases, like the Job Corps,[7] are expensive, that the average annual cost per Job Corps trainee is something like $11,000 (now about $6,900 per enrollee, with a completion time of six to nine months); that the dropout rate, while it has declined from 65% in 1965 - 1966, is still 40%. We should instead be shocked that by May 1, 1967, only 75,000 men and women had been in the corps for varying periods of whom 70% were either working, in school, or in military service. The cost, the effort, the result alike are puny. But it is likely that the average high school does much worse with similar populations (one in three of all young Americans leave school before they complete the 12th grade). Most important, the program is so small and our experience with it (and with its alternatives) so limited, that no sober judgment is possible, especially about the lasting impact of Job Corps experience.

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[7] National Director Kelly reported in 1967 that 4 in 10 of the corpsmen are from families on relief; 3 of 10 cannot read or write, more than 1 in 10 has been convicted of a crime, 6 in 10 are from broken homes, and 8 in 10 have not seen a doctor or dentist in the past 10 years.

We will eventually have to cut through the noise--both the noise of program launching and that of indiscriminate attack--and be willing to fund alternative approaches at a high enough level in both Washington and Honolulu for a long enough time to evaluate their (5 to 10 year?) effects.

To reach the unreached, business, labor and the schools will have to collaborate in a much expanded effort.

Manpower Planning: Linking Vocational Education, School Guidance Services, and Employment Services

If we let the public schools do the job they are best equipped to do--orient the student to the accumulated knowledge, beliefs, and values of his time--that does not mean that they should evade the immense task of vocational guidance and placement. This task involves the mechanics of putting the college and high school product and the dropout in touch with the best possible jobs. Here we deal with (1) ignorance of the occupational structure and (2) the organization of the placement effort--testing and placement procedures, employment interview tactics, and the like; vocational counseling; the relations of the University of Hawaii and the Community Colleges to high school guidance and tracking arrangements.

In discussions of education these problems are too often mixed up with curriculum planning - with the nature of the high school or college product himself. The fact is, we could leave the high school curriculum the way it is, or wipe out vocational education entirely, and still solve the problem of the mechanics of matching youngsters to jobs.

By the standards of rich countries, the process of linking young people, or for that matter people of any age, to jobs is casual. In contrast to Sweden, West Germany, and other European countries, we have a weak, understaffed employment service, whose operations are only loosely related to school counseling, testing, tracking, and vocational guidance and training; occupational information in our schools is sparse; forecasting of occupational supply and demand is primitive.

Hawaii shares the general deficiency, but is in a position to overcome it more promptly than most other states, because its Employment Department has already demonstrated its responsiveness to the demands of modern labor market demands.

On the basis of an examination of a 1966 study of "Guidance and Counselling in Hawaii's Public Schools" I get the impression that in quality and functions Hawaiian school counselors are similar to their counterparts on the mainland, although the cost seems higher (Hawaii spends over $1 million on public school counselors for salaries alone) and the caseload is worse (no better, I was informed, than 300 to 1 at the community colleges, 360 to 1 at the high schools).[8]

What do the school counselors do? At the risk of oversimplification, we can say that they are like school counselors on the mainland; they are talent scouts for the colleges; and when they are not tracking youngsters into or out of college or handling discipline cases for the principal, they are engaged in amateur therapy--their work takes on a case-work clinical character. They are only slightly attuned to manpower facts and figures; they know little of the occupational information lodged in the Employment Service (where there are fewer counselors better informed).

We need a new type of career counselor who will begin to supervise the career development of a child in high school, follow him through his first two or three jobs--for a year or two, at least--and provide continuing guidance through the maze of school curricula, training programs, jobs, and employment services. Obviously, the caseload of such a counselor must be light, the pay and the training level high. But what a saving of wasted time, what a gain in job opportunity and satisfaction!

If we need precedents for such a counseling function we can look at Sweden, where vocational guidance is shared by specially trained school personnel, and the employment service. "Career teachers," paid in part by the employment service, the main arm of a National Labor Market Board, meet once a month in every county to discuss job information and careers. They receive extra pay and reduced teaching loads for counseling students in their schools, bridging the gap between the school and the world of work.

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[8] Obviously in a few days of consulting I cannot check such figures or carry out a cost-benefit analysis of particular programs. It might be wise to commission such studies.

If such an innovation is impossible in Hawaii, there are several more cautious steps that could be taken:

1. Give existing school counselors who show some interest in vocational counseling special training. Let the Labor Department employ them as Placement Trainees in the summer. Give them advanced study credits for the trainee experience.

2. Encourage the Employment Service to conduct area skill surveys and disseminate their results. Hold regular statewide conferences of all school, college and Labor Department counselors where the Employment Service could discuss labor force information and give the counselors occupational materials. (It is clear that in the coming years labor market information will be much improved. The more difficult problem is to inject the results into the schools and colleges.)

Whatever forms it takes, a closer relationship among the public schools, the colleges, the University of Hawaii, and the Labor Department's Employment Service is desirable.

Several proposals in the Master Plan report--especially those symbolized by the magic word "articulation"--rest quite heavily on a better flow of occupational information. In one instance, it is said: "It is imperative . . . that community college occupational educators be cognizant of the opportunities available for the 'upward bound' students in the different states on the mainland. They should be able to provide their students with such information as cost, entrance requirements, prerequisites, and other pertinent information. The students should be aware of the fact that the community college curriculum is an open ended one in that it prepares him for job entry as well as a transferable education which may lead to a baccalaureate."

The suggestion that flow charts for various occupations be prepared is good, provided that students understand that there are thousands of interesting occupations for which clear flow charts cannot be prepared, that the charts are merely suggestive of the most visible of the careers of the recent past, and provided that counselors are assigned and trained to interpret these charts along with other information.

In the report the necessity for more opportunities for adult education is indicated. Yet, the 28,000 adults already in the Hawaiian secondary school program receive no systematic counseling and guidance, despite the fact that most of them have vocational aims.[9] Either the secondary school system should provide the necessary counseling or the program should be moved to the Community College System, which would then make counseling to that end available.

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[9] A recent national survey done by Philip Ennis found that one in five American adults had been active in one or another form of adult education in the 12 months prior to June, 1962. Seventy percent of it was course enrollment. Two in three of the entire population had participated in at least one adult education activity at one time in their lives. The activity was overwhelmingly vocational.

"Articulation" Requires A New Administative Structure, and Special Staff Training

The report proposes several good ways to improve articulation among various levels of education in Hawaii and between various curricula--from the establishment of a new Board of Vocational Education with an independent advisory council and the addition of a new vocational education director and staff to monitor the needed changes.

I am impressed with any proposal that provides for an administrative structure and trained staff for effective implementation of the plan.

My proposals to improve counseling and link it to the Employment Service would also improve articulation where it counts most (in the eyes of the student moving through the maze). I have one other related suggestion for the Coordinating Committee to consider: It concerns the natural tendency of the community colleges to orient themselves to universities, upgrade their staffing and standards, and concentrate on the potential transfer student, thereby shortchanging less privileged youngsters.

Historically on the mainland there has been a transformation of junior colleges into senior colleges, "teachers colleges" into regular colleges, colleges into universities, university departments limited to the Masters level into departments granting the Ph.D. In that pecking order, the student who drops out of high school or a community college is lost to view. If we assume a similar tendency in Hawaii and if we recognize that the preoccupation with the college-bound high school student and the university-bound community college student is inevitable (as the college population grows and employment standards rise), we might consider action to assure that the youngster who drops out on the way is not permanently out of sight. For many, if not most, dropouts do in the end complete additional years of education. Their process of rediscovery and re-entry can be made more efficient.

Proposal: There should be a staff in each community college to assure that despite their general look upward these colleges occasionally look downward. Their main task would be to reach down to the high school student who, for lack of information and motivation, has not thought of college and to reach out to high school dropouts who might return if they saw a career ahead. They would work with an upgraded high school counseling staff, also engaged in reaching out.

> They would jointly be responsible both to the Vice President of the University in charge of Community Colleges, and to the State Director of Vocational Education. That might foster the necessary mutual influence.

Mild Doubts About the Cluster Concept And Suggestions For A Structure to Make It Useful

I see the cluster concept more as a step in the right direction than a major solution to the problem of vocational education. It may move the system away from overspecialization, away from premature vocationalism, away from the misguided "realism" that rivets attention of the student on the first job, instead of the 46 worklife, on "training" for a job best learned on the job, instead of an optimal base for lifetime learning. The idea is, however, difficult to apply.

There are more than 40,000 occupations defined by the Dictionary of Occupational Titles. Some clusters of these can no doubt be defined clearly, especially for those fields traditional for vocational education. We can readily see such broad occupational families as "Electro-mechanical installation and repair" (business machine serviceman, home appliance serviceman, radio and television serviceman, air conditioning and refrigeration serviceman) or "construction" (carpenter, mason, plumber, electrician, painter). We can grasp "health services" (from nurse to physician some of the skills and understandings are similar). And such clusters can be very useful in guidance and counseling, in units on the "world of work" in social studies courses, together with other solid instructional materials--texts and articles--that are becoming widely available.

But I doubt that clusters, however defined, can become the major basis for fundamental changes in the high school curriculum. Clusters must instead be seen as a way to break down the cleavages between industrial arts and vocational education and between both of these and the general school curriculum--a step toward a unified curriculum.

In short, if the cluster idea is a tool for flexibility in continuous curriculum development and counseling, it will strengthen the major thrust of the proposed master plan; if it merely becomes a new straightjacket into which all the old practices are fitted, it will not serve the plan well.

If the cluster concept is adopted as a major basis for curriculum reform, I think it essential to assure its congruence with the rest of the plan by the following actions:

1. Establish realistic, definite time tables for the abandonment of old curricula and the establishment of the new.

2. Establish a school system structure that operates directly from the offices of the

    a. Director of Vocational Education

    b. Superintendent of Schools

    c. Vice President of Community Colleges

    down to the individual "cluster" planning committees. The aim would be to guarantee the flow of authority and influence necessary to breathe life into the cluster concept.

3. Constitute each cluster planning committee to include the necessary mix of industrial arts specialist, vocational education teacher, and committed general education teacher so that the resulting cluster curriculum and subsequent teaching effort are what you want.

-Harold L. Wilensky
November 20, 1967

APPENDIX F

JOHN A. BURNS
GOVERNOR

Robert K. Hasegawa
DIRECTOR
Robert C. Gilkey
DEPUTY DIRECTOR

STATE OF HAWAII

DEPARTMENT OF LABOR AND INDUSTRIAL RELATIONS

825 MILILANI STREET
HONOLULU, HAWAII 96813

December 5, 1967

Mr. Theodore F. Ruhig, Executive Secretary
Commission on Manpower and Full Employment
567 South King Street
Honolulu, Hawaii 96813

Dear Mr. Ruhig:

As per your discussion with Mr. Teruo Yoshida of this Department, the following is submitted on our position pertaining to certain phases of the proposed State Master Plan for Vocational Education.

Regarding the transferring of training under MDTA to the Community College System:

> "Although the objectives of the Manpower Development and Training Act have been refocussed from that of retraining of workers to meet technological displacement, to training for expanding occupational needs, to providing young people with entry skills, to basic literacy training and reclaiming the hard-core unemployed and persons with special employment difficulties, the basic purpose remains, that of preparing workers to enter meaningful employment.
>
> "The Department of Labor and Industrial Relations, therefore is in full accord with the recommendation that the actual training aspects of MDTA be placed with the Community College System of the University of Hawaii."

Regarding the establishment of a Work Experience Program in the secondary schools:

> "In the ever-changing world of work where manpower resources must be consistent with the dynamic changing needs of industry and government, it is imperative that our young people be constantly exposed to the opportunities that lie ahead and be given guidance and counseling so that intelligent career choices may be made. The proposed Work Experience Program in the secondary schools can make a small but significant contribution to this end. As envisioned, the program involves the placement of students in various work station experiences in government and industry.

"Since the Employment Service Division of the State Department of Labor and Industrial Relations is the central job placement agency and in a larger sense a clearing house of job opportunities and consistent with the general scope of the mission and philosophy of the Department, we concur with the recommendation that the placing of youth selected for the program in meaningful work experiences be made a function of the State Employment Service."

Yours very truly,

Robert C. Gilkey

Robert C. Gilkey
Acting Director of Labor
and Industrial Relations

AGREEMENT
OF COOPERATIVE ARRANGEMENT BETWEEN
STATE BOARD OF EDUCATION
AND
STATE DEPARTMENT OF LABOR & INDUSTRIAL RELATIONS
(State Employment Service)

This Agreement made this 2nd day of November, by and between the State Board of Education and the State Employment Service, State of Hawaii, witnesseth:

I. GENERAL PURPOSE

This agreement is entered into between the Hawaii State Board of Education and the Hawaii State Employment Service to render more effective, through cooperative action, selected functions of each agency as they relate to providing a public vocational education and placement program in the state. It is further the purpose of this agreement to establish a cooperative working arrangement between the departments for the purpose of complying with the provisions of Public Law 88-210 (Vocational Education Act of 1963).

II. AGREEMENTS

A. Delineation of specific areas of cooperation

1. The State Board of Education will:

    a. Utilize occupational information furnished by the State Employment Service in providing for an effective vocational education program.

    b. Cooperate with the State Employment Service in providing for labor market studies when supplemental occupational information is needed.

    c. Encourage local districts and schools concerned with vocational education programs to cooperate with the employment service offices in their area in the exchange of appropriate information, and otherwise assist in the implementation of the intent of this agreement.

d. Provide the Employment Service with information on training programs and courses available in educational agencies throughout the state. Local districts and schools will be urged to develop procedures to provide local employment service offices with information about persons trained and their qualifications.

2. The Employment Service will:

   a. Provide available occupational outlook information to vocational education officials for use in counseling students and in determining the occupations for which persons should be trained.

   b. Conduct labor market studies mutually agreed upon between the State Board of Education and the Employment Service when supplemental occupational outlook information is unavailable and required.

   c. Support existing vocational education facilities by referring to the proper officials those applicants in need of vocational educational information or training. At the time of referral, provide information germane to the counseling and guidance of applicants referred for training.

   d. Accept work applications from persons who are referred by vocational education authorities upon completing or leaving vocational training, and will provide employment services in relation to need of the applicant.

B. Liaison

1. To insure maximum results as well as effectiveness between the agencies, the Executive Officer of the State Board of Education and the Director of the Department of Labor & Industrial Relations shall each designate a staff member to act as liaison representative.

2. At the operating levels schools and employment service offices will be encouraged to develop and maintain, as time and conditions require, a working relationship which will reflect and serve to accomplish the specific purposes embodied in this agreement.

C. Exchange of Information

Exchange of information shall be treated confidential when information is of the type that makes it appropriate, but in no event will either department be required to discuss information which by law is made confidential.

D. Policies and Procedures

Present and future policies or procedures developed and issued under the terms of this agreement shall be a joint responsibility of the State Board of Education, acting through its Executive Officer, and State Director of Vocational Education and the appropriate officials of the Department of Labor and Industrial Relations. Any deviations, changes, or extensions of this agreement shall be mutually agreed to, prior to implementation by either agency.

III. TERMINATION

The parties mutually understand that this agreement is made by the departments in their official capacities as state agencies and not by their representatives as individuals. It is further understood and agreed that in the event the Federal Government or its agencies shall *fail to grant funds for the purposes of the* Hawaii State Plan for Vocational Education, the agreement shall be subject to termination upon written notice of either party.

In witness whereof the parties have hereunto set their hands at Honolulu, Hawaii, the day and year above written.

R Burl Yarberry
Executive Officer
State Board of Education

Alfred Laureta
Director, Hawaii State Department
of Labor & Industrial Relations

In reply refer
to EM

U. S. DEPARTMENT OF LABOR
Bureau of Employment Security
Washington, D. C. 20210

United States Employment Service
Program Letter No. 1585
February 19, 1964

TO: ALL STATE EMPLOYMENT SECURITY AGENCIES

SUBJECT: Employment Service Responsibilities Under the Vocational Education Act of 1963

REFERENCE: Public Law 88-210

PURPOSE: To furnish State agencies with information regarding provisions of the subject Act.

BACKGROUND

The purpose of this Act is to authorize Federal grants to States to assist them to strengthen and improve the quality of vocational education opportunities in the Nation.

Appropriations Authorized. The Act authorizes the following appropriations for the purpose of making grants to States: $60 million for FY 1964; $118.5 million for FY 1965; $177.5 million for FY 1966; and $225 million for FY 1967 and each fiscal year thereafter. These funds will be administered by the State Boards created pursuant to the Smith-Hughes Act of 1917. For the most part, these boards are State Boards of Education.

Primary Activities Under the Act. A State which desires to receive its allotments of Federal funds shall submit a State Plan, through its State Board of Education, to the Commissioner of Education (Department of Health, Education and Welfare).

State allotments may be used for any or all of the following purposes: (1) vocational education for persons attending high school; (2) vocational education for persons who have completed or have left high school and who are available for full-time study in preparation for entering the labor market; (3) vocational education for persons (other than those who are receiving training allowances under MDTA, ARA, or the Trade Expansion Act) who have already entered the labor market but who need training or retraining to achieve stability or advancement in employment; (4) vocational education for persons who have academic, socioeconomic, or other handicaps that prevent them from succeeding in the regular vocational educational program; (5) construction of area vocational school facilities; and (6) auxiliary services and activities to insure quality in all vocational education programs, such as teacher training and supervision, program evaluation, special demonstration and experimental programs, development of instructional materials, and State administration and leadership, including periodic evaluation of State and local vocational education programs and services in light of information regarding current and projected manpower needs and job opportunities.

EMPLOYMENT SERVICE RESPONSIBILITIES

The Act requires that the State Plan, among other things, provide for State Boards to enter into cooperative arrangements with the system of public employment offices in the State. Under such arrangements, State employment security agencies will be expected to provide occupational outlook information to vocational education agencies for use in counseling students and in determining the occupations for which persons should be trained. Vocational education agencies will, in turn, furnish employment security offices with information on the qualifications of persons completing vocational training. This information should be utilized by public employment offices in counseling and placing such persons.

We are now in process of developing with the Office of Education, HEW, a suggested agreement between the State education authorities and the State employment security agency, for effecting the cooperative arrangements specified in section 5 (a) (4) of the Act. Any inquiries concerning the employment service role under such agreements should be directed to the Bureau's national office (Attention: EM).

The provisions of the Act offer an excellent opportunity to improve the orientation of vocational education objectives to labor market conditions.

State agencies are urged to maintain, and, where necessary, work toward improving those working relationships already established with various vocational education agencies.

MANUALIZATION REQUIRED: None

RESCISSIONS: None

Sincerely yours,

Robert C. Goodwin

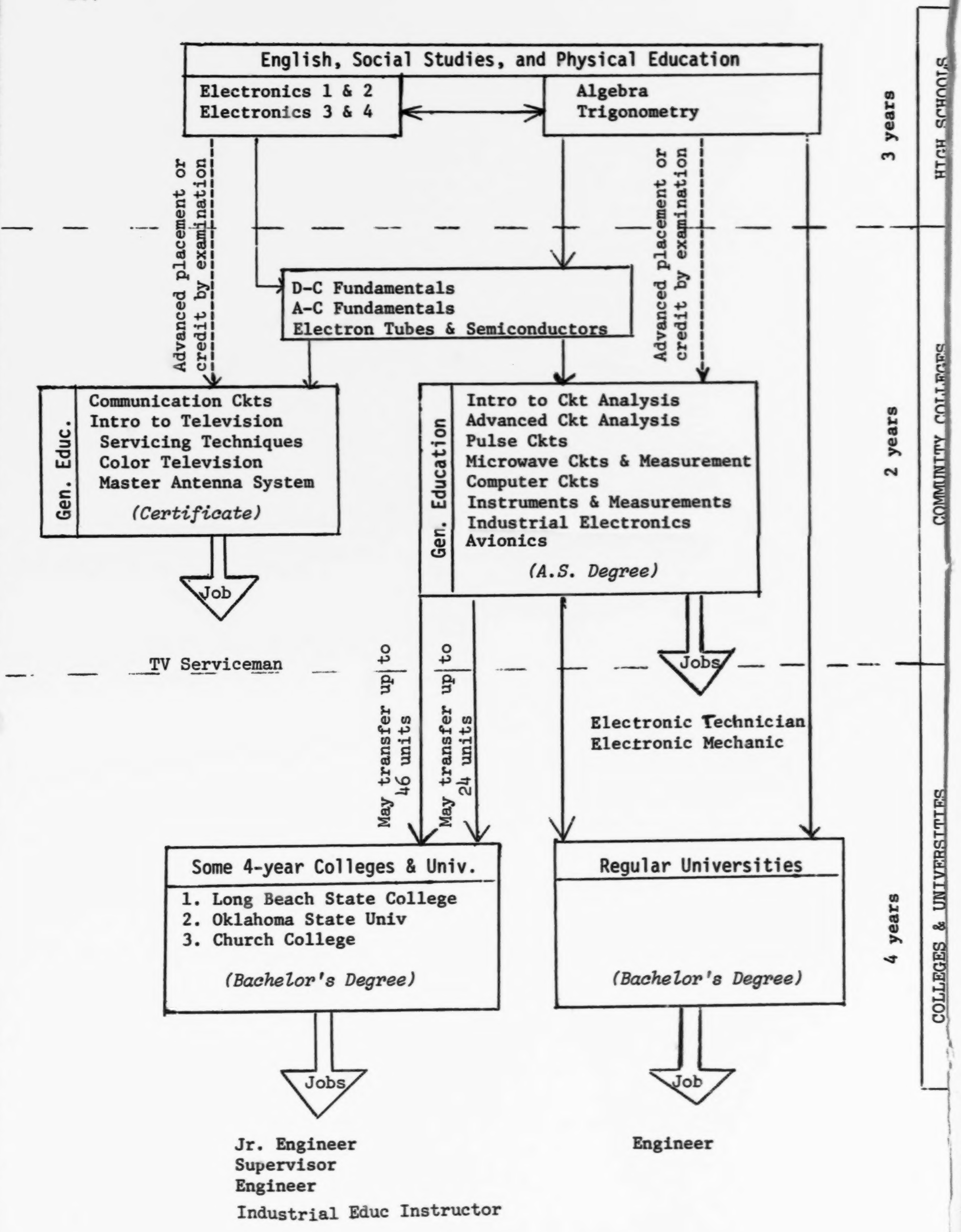
Robert C. Goodwin
Administrator

Enclosure

Public Law 88-210
(1 copy to each State agency)

APPENDIX G

A SAMPLE OF PROGRAM ARTICULATION: AN ELECTRONICS FLOW CHART


English, Social Studies, and Physical Education
Electronics 1 & 2
Electronics 3 & 4
Algebra
Trigonometry
Advanced placement or credit by examination
Advanced placement or credit by examination
D-C Fundamentals
A-C Fundamentals
Electron Tubes & Semiconductors
Gen. Educ.
Communication Ckts
Intro to Television
Servicing Techniques
Color Television
Master Antenna System
(Certificate)
Job
TV Serviceman
Gen. Education
Intro to Ckt Analysis
Advanced Ckt Analysis
Pulse Ckts
Microwave Ckts & Measurement
Computer Ckts
Instruments & Measurements
Industrial Electronics
Avionics
(A.S. Degree)
Jobs
Electronic Technician
Electronic Mechanic
May transfer up to 46 units
May transfer up to 24 units
Some 4-year Colleges & Univ.
1. Long Beach State College
2. Oklahoma State Univ
3. Church College
(Bachelor's Degree)
Jobs
Jr. Engineer
Supervisor
Engineer
Industrial Educ Instructor
Regular Universities
(Bachelor's Degree)
Job
Engineer
3 years
HIGH SCHOOLS
2 years
COMMUNITY COLLEGES
4 years
COLLEGES & UNIVERSITIES

APPENDIX H

PROPOSAL: A SCHOOL DROPOUT REPORTING SYSTEM IN A TOTAL STATE MANPOWER PROGRAM. (To be initiated February 5, 1968)

A coordinated manpower program is not just the mere providing of training facilities and services. It involves an entire gamut of services from the initial identification of an enrollee to the final providing of follow-up assistance to help him hold the job for which he has been prepared. In outline form, it is possible to break down a total manpower program into six basic steps:

1. IDENTIFYING THE POTENTIAL ENROLLEES.

   If we are to have an effective manpower training program, we must be able to identify those who would benefit from it. This involves outreach to find the actual people rather than just referring to them as statistical units.

2. LOCATING AND RECRUITING THEM.

   Once we know who the potential enrollees are, the next step is to physically find and recruit them. This can perhaps best be done by CAP personnel and others who have contacts in the various neighborhoods.

3. PROVIDE COUNSELING, TESTING, AND OTHER PRE-PLACEMENT SERVICES.

   When the enrollee is brought in, it is necessary to make a determination of his needs and problems and to provide whatever assistance is required. The Employment Service is the likely agency to provide or arrange for these services in cooperation with other agencies.

4. PLACE ENROLLEES IN APPROPRIATE TRAINING PROGRAM.

   The placement of an individual into a program should not be a matter of chance or of first-come-first-served. He should be put into the program best suited to his individual needs. This requires a central intake system for all the diverse Federal and State programs now being offered. Here again, the Employment Service is the logical agency to perform this function.

5. PROVIDE JOB PLACEMENT AFTER THE ENROLLEE HAS COMPLETED TRAINING.

   If training is to be effective, it must be training directly aimed at jobs which will be available at the end of the training period. This requires the cooperation of business and government in order to project future manpower needs and to plan for the filling of these needs. Empirical data is needed as to where the jobs are and what the shortage categories are. The training programs can then be designed to meet these requirements. The Employment Service has the responsibility for actual individual job placements.

6. PROVIDE FOLLOW-UP SERVICES TO HELP ENROLLEE ADJUST TO AND MAINTAIN JOB.

   Many of the people who enroll in these manpower programs often have other difficulties, social, medical, legal, etc., which may impair their effectiveness on the job. The various agencies concerned with these problems will have to be prepared to help resolve these problems. Here also follow-up evaluation on the effectiveness of the previous five steps can be made.

The six steps just cited are only the basic elements of what should be done in a total manpower program. There are of course many variables involved which will have to be taken into account when such a program is actually developed. However, they provide an indication of the direction in which we should be heading.

If we are to start on these steps, we must begin at step one. Inasmuch as many of the available manpower programs are directed at the younger age groups (Job Corps and Neighborhood Youth Corps for example), we should make the effort to bring in those youths who can best benefit from these programs. Those who are most critically in need are the school dropouts. They are generally from disadvantaged backgrounds and, if they are not assisted, are likely to become the hard-core unemployables of the future.

The key to reaching these dropouts is speed. The longer they remain out of school, the more difficult it is to get to them and recruit them. The present dropout reporting system of the Department of Education is inadequate for this purpose. However, with the use of computers and other data processing equipment, it is now technologically feasible to have an up-to-date dropout reporting system. Such a system could conceivably produce a print-out of names within one or two weeks after the students have dropped. Copies can then be forwarded to the Employment Service and the local CAP agencies for further action. Of course, some determinations have to be made as to what actually constitutes a dropout, a chronic absentee case, etc. No hard definitions now exist.

Many details have to be worked out before a computerized dropout system can be put into operation. However, if we can reach a basic agreement on the format and procedure which would be most useful, this will assist the DOE in its development of the system.

Once the reporting system is put into effect and we have up-to-date lists of dropouts, we can start on our implementation of step two. Essentially, what we have is a group of individuals who could benefit from job training on one side and a number of training programs available on the other. In order to achieve maximum effectiveness and coordination, we will all have to make the effort to see that the two sides mesh together properly.

APPENDIX I

The following suggested areas of needed research were developed at a May 23, 1967, workshop seminar jointly sponsored by the State Commission on Manpower and Full Employment and the Hawaii Vocational Education Research Coordinating Unit.

The aim of the workshop, which was attended by 54 representatives of State agencies, business, and labor, was to formulate broadly goal-oriented and operational research programs--as opposed to ad hoc or tangential "wonder oriented" research.

A SUMMARY OF PROBLEM STATEMENTS OF CURRENT OCCUPATIONAL AND VOCATIONAL EDUCATION PROBLEMS IN HAWAII

Curriculum Development and Experimentation

1. What methods can be devised to analyze occupations as to knowledge and skills required in order to establish new configurations of vocational programs which will concentrate on clusters of related occupations.
2. What is the relative effectiveness of different methods of teaching (or combinations of methods) in preparing people for occupational opportunities.
3. To what degree can educational programs be designed to more effectively provide an individual with sufficient flexibility to enable him to move from one occupation to another with a minimum of adjustment.
4. How can we devise and organize a more viable and general curriculum to deal with and overcome problems of technological change.
5. What are the most effective means for collecting data to permit continuous program evaluation.
6. How can we standardize occupational curricula which include common elements of learnings.
7. What are the most satisfactory techniques for assisting schools to modify their vocational education programs to broader, more general concepts of vocational education.
8. What kind of educational programs can we develop for those "screened" out of existing vocational-technical education programs.
9. Can occupations be analyzed for knowledge and skills that are common to families of occupations.

Personnel Recruitment and Development

1. To what extent are studies needed which relate to the determination of the numbers, qualifications and sources of people needed to meet staffing requirements of current and projected vocational-technical programs.
2. What are the factors which determine the character of pre-service and in-service vocational teacher preparation programs.
3. What sources can best serve to recruit, select and train specialists in vocational-technical education.

Occupational Information and Career Choice

1. How can skill surveys most effectively be used for determining manpower needs and training requirements.
2. What are the educational and training requirements for entry employment in the semi-professional and technical occupations.
3. What are the elements which influence occupational choice.
4. What kinds of guidance and counseling practices are needed to deal with the growing segment of job seekers in the middle and older age groups.
5. To what extent could controlled experiences in business and industry for counselors and non-vocational teachers assist them in helping youth make more realistic occupational choices.
6. What is the most effective means of packaging and disseminating occupational opportunity information to meet the needs of specific audiences such as the high school dropout, slow learner, hard-core unemployed, disadvantaged, and parent groups.
7. How can we facilitate the development and use of local manpower data and the sources and techniques which could be used in gathering more accurate data.
8. How can we develop techniques to gather more accurate and complete data on manpower needs for program planning.

Personal and Social Significance of Work

1. What are the economic, sociological, and psychological criteria for evaluating vocational-technical education programs.
2. In what manner did members of the present work force acquire their job competencies.
3. What research must be initiated to understand the nature of present and predicted job vacancies.
4. How is the process of occupational choice affected by social and cultural background.
5. How do socio-economic groups in our society differ as to values attached to various aspects of work.
6. How much attention should be given to the humanistic and social studies in occupational education programs.

Adult and Continuing Education

1. What is the nature and scope of occupational offerings in adult education programs.

2. What are the circumstances and factors that motivate adults to continue learning.

3. What changes are needed in job structures and training programs to increase the employability of older workers.

Program Evaluation

1. What training facilities, both public and private, are available in the State to provide occupational and related training to youth and adults.

2. What are factors that influence decisions concerning geographical mobility of trainees and graduates.

3. How does the geography of Hawaii affect the quality of educational and occupational training opportunities.

4. What types of vocational education should be provided at (a) the secondary level, (b) the post-secondary level and how should these be articulated.

5. How can the rate of growth and nature of emerging occupations be forecast to provide data for occupational program planning.

6. How can the economic return of training to society for any given occupation be determined.

7. To what extent can cost-benefit and cost-effectiveness be computed to provide basic data and knowledge about the variable costs of occupational curricula.

8. How effective are the work-study programs at the secondary level as an organizational method of providing occupational education for entry positions.

9. What are job and skill changes associated with current trends in automation and other technological advances.

10. How can controlled experiences in business and industry be developed and organized to improve training programs.

11. What is the most effective means of developing on-going research to determine the short-range impact of automation and technological change on the current work force.

12. What are the current and predicted regional needs for occupational training of the Pacific Basin.

13. What is the predicted impact of technological change of the occupational and skill composition of employment opportunities projected for ten years.

14. What kind of occupational training programs can be designed for those who withdraw or are "forced out" of formal schooling.

15. What is the relative effectiveness of various occupational training programs on subsequent occupational success and satisfaction.

16. What is the most efficient administrative pattern in developing a goal-oriented operational research program.

APPENDIX J

LIST OF CONSULTANTS

VOCATIONAL EDUCATION MASTER PLAN

Dr. Melvin L. Barlow, Professor of Education, UCLA, Los Angeles, California

Dr. Harold Wilensky, Department of Sociology and Institute of Industrial Relations, University of California, Berkeley

Dr. Grant Venn, Associate Commissioner for Adult and Vocational Education, U. S. Office of Education

LIST OF PARTICIPANTS

VOCATIONAL EDUCATION MASTER PLAN

Mr. Robert Agena, Hawaii State Employment Service

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Mr. Charles Araki, Department of Education

Mr. Richard Balch, University of Hawaii

Mr. C. C. Cadagan, Board of Regents

Mr. Owen J. Cook, Church College of Hawaii

Dr. Edith Doi, Community College System

Mr. George Escher, Vocational Education Council

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Mr. Donald Fujimoto, Community College System

Mrs. Loretta Fukuda, Department of Personnel Services

Mr. Russell Geib, Chamber of Commerce

Mr. Robert Gilkey, Department of Labor

Mr. Robert Hasegawa, Department of Labor

Mr. Francis Hatanaka, Department of Education

Mrs. Alice Hong, Department of Labor

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LIST OF MEETINGS

VOCATIONAL EDUCATION MASTER PLAN

1. June 21, 1967 - Advisory Committee
2. June 30, 1967 - Advisory Committee
3. July 19, 1967 - Advisory Committee
4. August 7, 1967 - Coordinating Committee
5. September 18, 1967 - Advisory Committee
6. October 2, 1967 - Advisory Committee
7. October 9, 1967 - Coordinating Committee
8. October 26, 1967 - Coordinating Committee
9. October 30, 1967 - Coordinating Committee
10. November 6, 1967 - Coordinating Committee
11. November 18, 1967 - Coordinating Committee
12. November 22, 1967 - Coordinating Committee
13. December 20, 1967 - Coordinating Committee